1944

Get ready now to
SELL
TELEVISION

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A Guidebook for Merchants Who Recognize an Extraordinary Opportunity

Compiled by

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under the direction of

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Preface

With a great new business ready to be launched upon the coming of peace, and with hundreds of thousands of American homes wating for television, it is essential that retail outlets and maintenance men be instructed in the methods which will make for the most effective distribution and installation of television receivers.

Accordingly, this book—pioneer in its field—was outlined as a timely service to the television industry and trade. To an editorial staff of wide experience in radio and television, was assigned the collection of information and the preparation of the chapters and pages that follow. Comprising this special staff which produced and compiled the material, were:

John L. Stoutenburgh, associate editor Radio & Television Retailing; for 14 years retail sales executive, (including 12 years as store manager of a large retail radio and appliance business.)

William E. Moulic, technical editor Radio & Television Retailing, and associate editor Electronic Industries. Radio and television servicing expert. Former Professor N. Y. State Signal Corps Training School. Co-author "Electronic Engineering Handbook."

William C. Alley, former retail-radio-store proprietor; former merchandising expert for the Radio Manufacturers Association; former managing editor Radio Retailing; now motion-picture writer and director for Audio Productions, Inc.

Jean Mayer, former member of editorial staff of Electronic Industries, editorial secretary "Electronic Engineering Handbook."

To insure the widest industry contacts and to tap practical experience in past selling of television, this staff has had the benefit of consultation with officials of RCA, General Electric, DuMont Laboratories, Philco, Farnsworth, and Stromberg-Carlson, in addition to individual authorities in the merchandising and television fields including:

Edgar Kobak, executive vice-president, The Blue Network
Ralph R. Batcher, consulting radio-television engineer
Jules Smith, merchandising vice-president, Davega-City Radio Stores, New York
H. L. M. Capron, former head of Macy's radio department, New York
William West, contributor National Retail Dry Goods Assn. Bulletin.
Hyman Shapiro, radio distributor, Newburgh, N. Y.

NBC, CBS, Blue Network, Mutual and Don Lee have also aided through supplying photographs of studio operations, audiences, etc.

* * *

To all who have contributed information, ideas and experiences to this pioneer volume on Television Selling, now in the reader's hands, the thanks of the coming new Television industry and trade are due.

O. H. Caldwell
M. Clements

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Foreword

THE ROLE OF RETAILER AND SERVICER IN TELEVISION

By *JAMES LAWRENCE FLY*
Chairman
Federal Communications Commission

In the discussions about television thus far, much has been said about the responsibilities of the allocating and regulating authority, the broadcasters, the engineers, the researchers, the manufacturers, the program producers and the advertising agencies. Merchants and installation men have no less a stake in television's future for on them will fall the ultimate responsibility of putting television sets—of adequate quality, properly installed, with correct antenna—in thousands of postwar living rooms. Both the radio merchant and the radio servicer—for competent technical service must be available to keep those video sets operating at full efficiency—have important roles to play in the coming adventure of providing the American public with the best possible television entertainment.

As to the commercial development of television as America turns from war to a peacetime economy, it is important to bear in mind that commercial television has been fully authorized by the Federal Communications Commission. From now on television can move in only one direction, under a steady green light.

Of course, engineering standards will have to be fixed from time to time to maintain the most efficacious basis for television operation. I can assure you the Commission will cooperate whole-heartedly with the industry in encouraging research and experimentation to aid the development of this new art. For in the ability of the industry's engineers lies our confident hope for a vastly improved permanent and successful form of television.

Profits and Prestige for You in Television

Some business-man is going to take first place in Television in every community in the United States. The dealer who foresees the money and position this new art promises for the future, should hit the ball right now — and start it rolling

"There's a great day coming!"

That's the only way to describe the impact television will have when it hits—as hit it must, sooner or later—and perhaps sooner than any of us now suspect.

Television today is more than merely a subject for conversation or speculation. Television is here—a practicality—a reality—a fact! It is merely waiting for the war's end to let down the flood gates. Then we will see these great United States of ours swept from coast-to-coast by one of the greatest avalanches of public interest—and public demand—that we've ever had in the entire history of American economics.

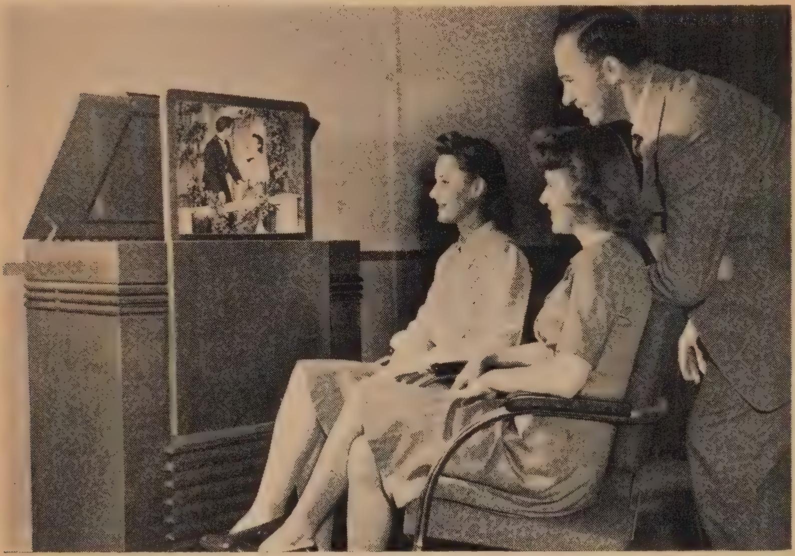
You think those are strong words? Think we're exaggerating? Well, maybe you're right, but just stop and consider some of the amazing new industries that have marked the course of our history with money-making opportunities—profit opportunities offered by no other country in the world.

Within our own memories are the lush days of the early 1920's—when any store with a counter and a few radio parts that opened for business, was immediately swamped with customers demanding to know how they can make one of those gadgets that pick music out of the air.

Remember those days, brothers? There were scoffers then, too. Dealers who turned up their delicate noses—dealers who said radio was just a fad—it couldn't last. Where are those scoffers today? Either they refused to recognize realities and wound up dodging the sheriff—or they were smart enough to climb on the bandwagon and take advantage of the selling opportunities this lusty young baby was leaving on the doorstep of every merchant who had vision enough to foresee a great industry.

You men who were "in" on the birth of radio almost a quarter of a century ago don't have to be sold on the merchandising opportunities television will bring. You've lived through something similar, and you know. But it is doubtful whether any of us realize just how big television will be. It will dwarf anything that has ever gone before.

And you younger men, to whom the birth of radio is just a legend—like the gold rush of '49—mere words will never convince you of what's coming. All we can do is warn you that a great new industry is being born today, right in front of our eyes. Thousands of you younger men will make fortunes from television. You will establish great new stores specializing in television, or you will create big new departments in stores already established . . . , and you will find this new television activity of yours suddenly becoming the busiest, most profitable activity you have ever undertaken.



Farsighted dealers not only visualize scenes like this in the future—with the family around the living room "projection" teleset, but they see sales for "personal" receivers in other rooms in the home as well.

Thousands of other men who are reading these words—men both young and old—will not believe. They will ignore the whole dynamic subject of television—and regret it all the rest of their lives!

These poor blind men who will ignore television, and so miss out on the greatest opportunity of this or any other century, have their counterparts in history—men who didn't believe—or who, believing—didn't have the nerve or the know-how to make money out of new developments.

Let's take a few pages out of the past. Let's review some facts. Within the memories of many men still living is the development of three great new industries—radio, motion pictures, and the automobile. These new industries created great new industrial dynasties. They created vast new retail systems—made up of men with vision and determination—vision to foresee the profits and determination to make some of those profits themselves.

Television, today, has not progressed to the point where the automobile is today; or the radio; or the motion picture. But we have had ten years of television—and if history repeats itself, and mark these words, history will repeat itself—television today has already progressed to the point where it is about to hit America like the proverbial ton of bricks.

SHRYOCK
RADIO
TELEVISION

Television in the store name, and "television yesterday, today and tomorrow," are evident in this recent picture of a progressive, old-established Philadelphia dealer's new store. Nothing like identifying yourself with television now to insure future sales.

In ten years, the automobile had progressed from a ludicrous horseless carriage, to a form approximating what it is today. In another five years, the building of good roads on a nationwide basis caused the automobile to leap into the top ranks of money-making industries.

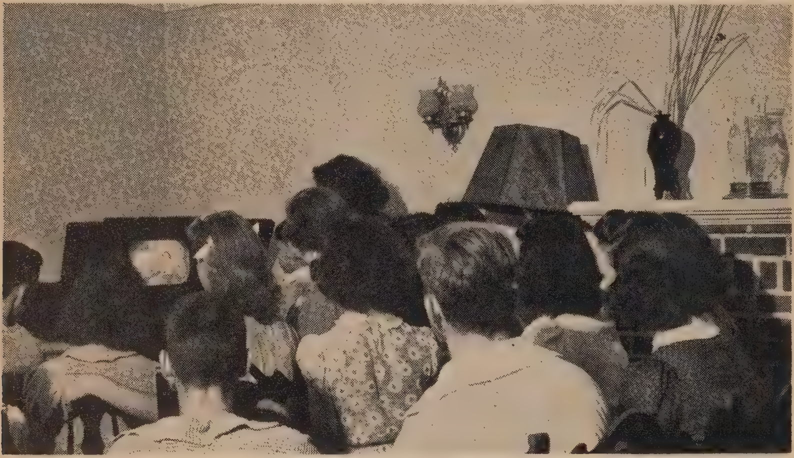
The development of motion pictures also has a parallel to television. In ten years, the motion picture developed from cheap nickelodeons to great motion-picture palaces. From 1910 to 1920, the motion picture "grew up"—reached maturity. From one and two-reel "Keystone comedies" it had progressed, by 1920, to such masterpieces as "The Birth of a Nation" and "The Four Horsemen of the Apocalypse," both of which still rank high in public favor in spite of the technical advances that have been made in production.

In fact, the development of the motion picture has a peculiar parallel to the development of radio and television, and many lessons may be learned from a comparison.

Motion pictures started out as purely a visual medium of entertainment. In the late 1920's, motion pictures added sound, and took a new lease on life.

Radio started out as a medium of entertainment by sound alone, and now we are adding vision. Will it be a new lease on life for us, too? Let's see what happened in the motion picture business.

When sound was added, the motion picture industry itself was unready. There had been no years of preparation, as we have had in television. "Sound" hit the movie theaters of the nation as a calamity. Those theater owners who had no brains opposed the new development. They refused to believe the public would accept sound motion pictures after several decades of silent pictures.



Children learn by seeing and hearing through television's two-way performance. Profits and prestige will come to the dealer who makes himself known as the outstanding video specialist in his community.

Others—the smart ones—swam with the popular tide. They were quick to equip their theaters with sound. They cashed in to the fullest possible extent on tremendous public interest in this new development. They knew that the public is always interested in something new, and they acted quickly and smartly to adapt themselves and their places of business to this new activity.

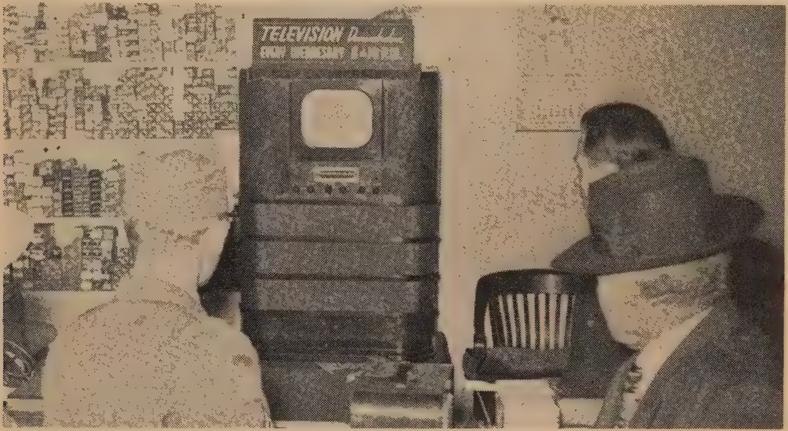
Oftentimes, these smart ones were the little fellows in town . . . the real merchandisers of the motion picture business. They accepted sound—welcomed it—advertised it—and their theaters immediately became the centers of attraction in their community.

Meanwhile, more often than not, the big fellows in town sat back smugly and stuck to silent pictures. "Sound is just a fad," they said. "We'll sit tight and stick to silent pictures. The public will soon get tired of those raucous noises and come back to us."

But it didn't work out that way. The "raucous noises" developed into perfect, enjoyable sound motion pictures . . . and the smug boys fell by the wayside right and left. Today, the big exhibitors in the motion picture business, the ones who are *now* reaping the profits, are the ones who leaped at sound with open arms when it hit their industry.

Is there a lesson in that for us? Yes, there is.

Those of us who act now to welcome television—to advertise it—to identify ourselves with it—are the ones who will be sitting on top of the world a few years from now when television will be as commonplace as sound motion pictures are today.



In your store if you have a television receiver you can attract customers for postwar receivers by giving free shows even now. One Chicago dealer does this, even in wartime. Television "sells" the audience through the magic of its sight.

In this decade—from 1944 to 1954—television will grow up. Television will reach maturity just as the automobile did from 1910 to 1920—just as the motion picture did from 1920 to 1930—just as radio has done from 1930 to 1940 when nationwide networks and coast-to-coast broadcasts by the biggest stars in the world, brought radio to peaks of public interest and merchandising opportunities undreamed of when radio was still a gadget.

Fortunately, television has never been a gadget, except in the laboratory. It has already reached a degree of perfection before release to the public, that is unparalleled in our economic history. Never before has a new development been withheld so long from the public. Never before has a new development won such widespread advance publicity. Never before has the public so eagerly awaited something new. And never again, in our lifetime, will we have the privilege of witnessing the birth of a new industry. And that means, in our generation we will probably never witness such a tremendous selling market.

In the limited territories where television programs are already being broadcast regularly, the public response has been enthusiastic. Only the advent of World War II held back the nationwide start of television. In a way, that has been an advantage—a dam was placed in the path of an onrushing tide. Meanwhile, the waters of public demand have been building up, day after day. When the dam is released—when television is allowed to find its own level—then, brother, you'd better be ready! Nothing like it will ever be seen again by the eyes of man or beast! And that will happen—mark well these words again—that will happen perhaps sooner than we think!

A glimpse into a modern television studio during the televising of a playlet. Amid a realistic stage setting, note the two television cameras, the microphone slung on its long overhead arm, and the powerful lights.

Already, television stations are operating in five major population centers—New York, Chicago, Los Angeles, Philadelphia and Schenectady. And stations are being planned for Cincinnati, Detroit, Milwaukee, San Francisco, Salt Lake City, Cleveland, Washington, D. C., New Orleans and Denver. As listed on pages 173–179, licenses for at least seventy active stations have been granted or applied for. Designs for studios have already been prepared—studios that will include every one of the latest, most modern, most up-to-date pieces of equipment known to the science of television broadcasting.

In addition to television networks, we will have individual local stations, just as we now have in ordinary radio. It is a pretty safe prediction to state that almost every city and town that now has a local newspaper or a local radio station will eventually also have a local television station.

Sooner or later, television will come to *your* town, *your* territory. It awaits only the end of the war and the release of war factories and materials for civilian production. And, during these years when it has been withheld from the public, television has been developed and its quality increased. It will burst upon the public in a degree of perfection far beyond the first automobiles, far beyond the first radios, far beyond the first motion pictures.

The science of broadcasting has been developed, the science of building television sets has been developed, and the art of broadcasting television programs has been practised for a good many years.

There is no question of public demand. That has already been proved. Perhaps you remember the television test selling campaign that was staged in Newburgh, N. Y., a year or so before the war.

Newburgh is a typical American community of some 33,000 population, on the west bank of the Hudson River in the foothills of the Catskill Mountains. Though 65 miles distant from New York City it can pick up television programs from the Empire State tower.

When a crew of salesmen selling television receivers hit Newburgh for their test campaign, the results astonished even the hard-bitten house-to-house peddlers. Home-owners and store-keepers alike, when they saw a demonstration, didn't ask, "How much?" . . . they just said, "Gimme one." Today, there are as many television sets in the stores on Main Street as there are in the homes of Newburgh.

Stores found nothing like it for increasing store traffic . . . people flocked to the lunchrooms and cafes with television receivers. And the home folks found forty and fifty of their neighbors on the front porch on the nights when a good television show was advertised.

Those scenes are going to be repeated in thousands of communities in the not-too-distant future. Television will burst full blown upon your town some day soon, perhaps when you least expect it. What's going to happen then? Are you going to be caught flat-footed . . . off in a corner somewhere biting your finger nails in envy and wishing you had done something about it long ago? Or are you going to be in the vanguard of television pioneers, ready and waiting to cash in on the avalanche of golden dollars that will pour in on every radio merchandiser who has identified himself with television?

You know the old saying about catching a wildcat by the tail. Well, television is going to be a wildcat to shame all wildcats, and you'd better be ready to catch it by the tail and tame it.

Others are now preparing. Today is not too late to start. Sponsors, advertising agencies, radio broadcasters, artists, writers, producers are all busy *right now*, studying television, preparing and broadcasting experimental programs, learning all they can about this new medium before it reaches national importance. They are preparing themselves for the future. It's time the retail trade caught up with them.

There is no denying that television is hot right now, and getting hotter. Almost every newspaper you pick up has some news item about television.

Magazines are featuring television articles. Motion picture producers are inserting television clauses in their contracts with their players, writers and directors. Everybody else is getting ready. Are you?

What will television bring to your town, your customers? It will bring into their homes a living theater of sight and sound . . . a veritable encyclopedia of entertainment, news and education. It will bring them the sight and sound of history-making events at the moment history is being made. It will be a magic window, opening to every one of us the great vistas of the world we live in. It will bring to our eyes and our ears the fun, the music, the art, the science, the literature, the wisdom of all time.

The grandstand, the gridiron, the baseball diamond, and the racetrack are just a few events brought home to the teleset owner. News, as it is being made, whets the appetite for ownership of television receivers.

What an opportunity that presents for every man who is in a position to bring television to his community! What an opportunity for the man who *sells!* Mere words fail in describing it. Mere words are completely futile to bring home to you the high place you can achieve in your community by being the *first* television merchandiser . . . by making your place of business the center of television attention.

Somebody is going to take first place in television in every community in these broad United States. We hope that you who read these words will be the first in your town. By your very purchase of this book, you have shown the desire for leadership in television. All you need now, is the "know-how" which this book will attempt to provide. Don't ignore these words of advice, these suggestions for action. Put your desire for leadership into actual practise. *Do* something about it.

So, start now to make your store *television headquarters.* Even if you have no television broadcasting available in your community, don't forget that your customers *know* about television. They read about it. They hear about it, and they *want to know more* about it. Be the one to whom they can turn for information . . . authoritative information . . . about television.

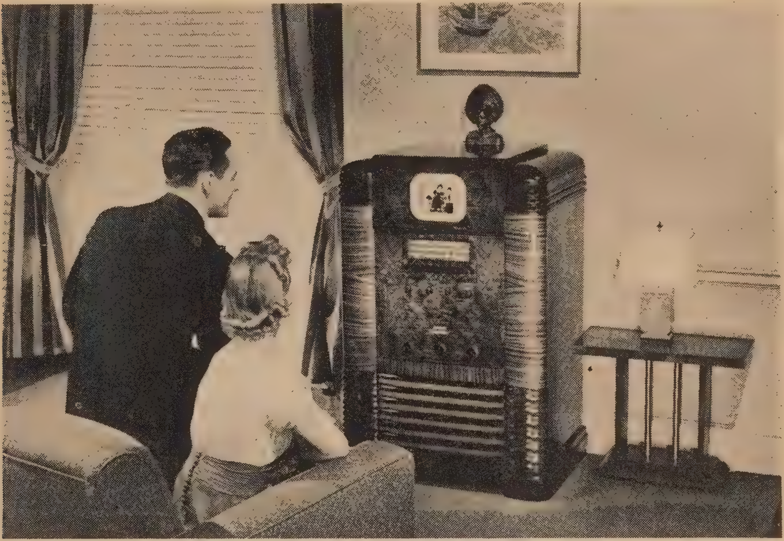
Add "television" to your store name.

Add the word "television" to your radio department.

Put television posters in your windows.

Sell television magazines.

Even if this course does not mean immediate sales of television receivers, you are building on a sound foundation for the future. And it will undoubtedly attract public attention to your store, build store traffic, and increase the sales of present lines.



The postwar television set will be a "must" in millions of American homes. Remember what happened when motion pictures added sound? Think what video promises—radio with vision for tomorrow's sales!

Watch for news of television stations planned in your vicinity.

Give interviews or write articles about television for local newspapers.

Read up on television. Study it. Learn everything you can about it from every possible source.

Keep in touch with manufacturers' plans. As they announce new television sets, put pictures of the new sets in the window, and in panel frames on your counter.

Clip television articles from newspapers and magazines, and put them in the window where everybody who passes can stop and read the latest news about this coming development.

There are dozens of things you can do, and do immediately, to start identifying yourself with television, and to start making your store television headquarters.

In this book, you will find a thousand and one facts, ideas, bits of information, that you can use in talking to your customers, in writing local newspaper articles, in giving interviews on television.

Take advantage of this information.

Go to town, in *your* town, on television.

Television service is being made ready for cities and towns all over the country. It is only a question of time when your community will be able to receive television programs, and your customers will start buying television receivers.

Designs for broadcasting studios are completed, licenses are granted, and television receivers are ready to roll off production lines on short notice.

In this coming great opportunity, the retailer will play a star role. After twenty years of television preparation, a billion dollar business is being born.

$200 will be the average cost of a good television receiver. Everybody—literally—everybody in town—will want one. Figure the market for yourself. Any way you figure it, the market mounts up to thousands of dollars in even the smallest community.

That's worth going after, and going after in a big way.

Some retailers, even now, are signing their customers on a priority basis—giving customers who sign up now the first crack at television purchases as soon as the sets are ready . . . you'll read more about that later on in this book. And you'll read more . . . much more . . . about how to make your store television headquarters.

Read—and then, *act!* Start now, today, to prepare your television selling plans!

Television's Magic Carpet

Its educational, entertainment and travel possibilities—insure television's role as the great unfolder of pictures of the world in the homes of millions, rich and poor alike. A modern, electronic marvel to enhance modern living, to bring peoples of the world closer.

The legendary "magic carpet" appealed to the Arabian dreamers of by-gone days because it was reputed to possess the powers to transport them, with no effort on their parts, to places they had never seen before. It also promised the dreamer the possibility of seeing his own city from an entirely new angle—a bird's-eye view—and so he could learn things about his city never before revealed to him.

Thus the mythical magic carpet—like Aladdin's lamp—was worth a king's ransom. It could fetch a fabulous price in any market.

Of course, that mythical magic carpet was nothing but an extravagant dream, and even if it had been a reality, none but a person of the greatest wealth could have purchased it.

But television's modern "magic carpet," on the other hand, offers its magical facilities of travel to rich and poor alike.

For, in a flash, television's magic carpet will be able to transport its living room audience to Washington, D. C., to the Colorado Rockies, to Fifth Avenue, to San Francisco's Golden Gate, to Hollywood's Rose Bowl, to the cotton fields of Louisiana, or to the wheat empire of Manitoba. It will convey Mom, Pop and the children to London's Houses of Parliament, to India's Taj Mahal, to Moscow's Kremlin, or to the diamond fields of South Africa. And so, that television screen in the home teleset swiftly becomes the greatest show window in the world!

In addition to its entertainment features, television is thus bound to bring peoples of the world closer together in seeing and thinking alike, and so may be able, within the space of a few years, to achieve better understanding between nations, resulting in greater tolerance, better standards of living and possibly a durable form of peace.

Television will pick up where the movies, radio, communications systems and modern transportation facilities have been forced to end by physical limitations. Television is the latest great link forged into the chain of modern electronic marvels to aid mankind.

From the educational and enlightenment aspect, television's possibilities are not only limitless, but are revolutionary, and its dissemination of visual news promises to be one of its most important functions.

We have but to look at the methods of bringing news to a news-hungry public today to contrast the news situation as it exists now—with the future situation created by television.

History in the making—national events unfolded to the eye as well as the ear. Now, "see" the President as he speaks to the people on national issues.

News, according to the dictionary is "fresh information concerning something that has recently taken place." The word itself is so qualified that the facts brought to one under the heading "news" must be fresh—must have taken place recently. The sources of news may be N—orth, E—ast, W—est or S—outh, but, in order to qualify, news must have happened recently.

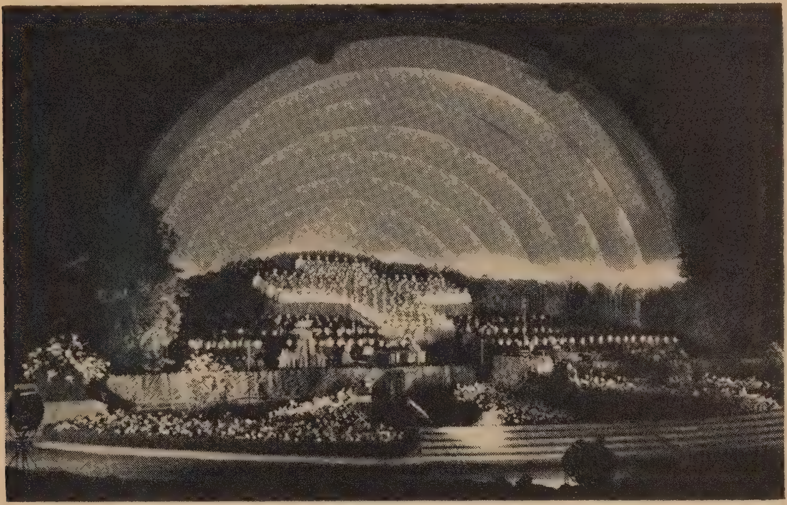
Considerable time elapses between the moment a news event happens and the time it is made known to the public via the newspaper or the newsreel.

Today the *radio* is capable of bringing the news *first*, and over a territory embracing the entire world.

Television is radio *plus!*

Television, obviously offers greater possibilities in bringing news, since it bypasses all of the mechanical processes, and their resultant loss of time, as in the case of the movie newsreel, and the greater delay and lost motion involved in the newspaper's printing of news and delivering the finished product to the reader.

Radio, then, stands out as the magic-carpet method of bringing news to the home with the speed of light—and television is merely hanging pictures on the invisible lines now tied in between the world's transmitters and the home receivers.



The beauties of a California Easter brought into the homes of the nation. A sunrise service from the Hollywood Bowl.

Consider, as a merchant, selling a news-bringing device for the home that will do these three things:

1. Show news events while they are happening.
2. Show current news without editing (editing delays news today over radio, movies and newspapers).
3. Let home audiences see and hear the news.

On the radio today, news is of immense importance. Lots of people listen only to news, and it is quite likely that news and entertainment features translated into numbers of listeners, run neck-and-neck.

The war alone is not responsible for the great popularity news enjoys over the radio. In times of peace great events are always currently interesting. Many a radio news commentator has been skyrocketed to fame through the broadcast of one single news event—and this has happened just as many times before the war as it has during the war.

Television's magic carpet, from its news angle alone, appeals to everyone. Its coverage may be broken into three great divisions:

1. General news, appealing to the greatest number of men, women and children, from world-wide sources.
2. Sports events, appealing to fans and to those financially interested in sports.
3. Politics. Television's magic carpet will, for example, let more voters see more candidates. And, interestingly enough, will cause a new influence to be brought to bear upon the voters' decisions—that of the appearance of the office-seeker.

GEM BLADES
GEM
ABE STARK

It's the third inning of the World Series and the batter's up. Television lets you see this all-exciting, sports event.

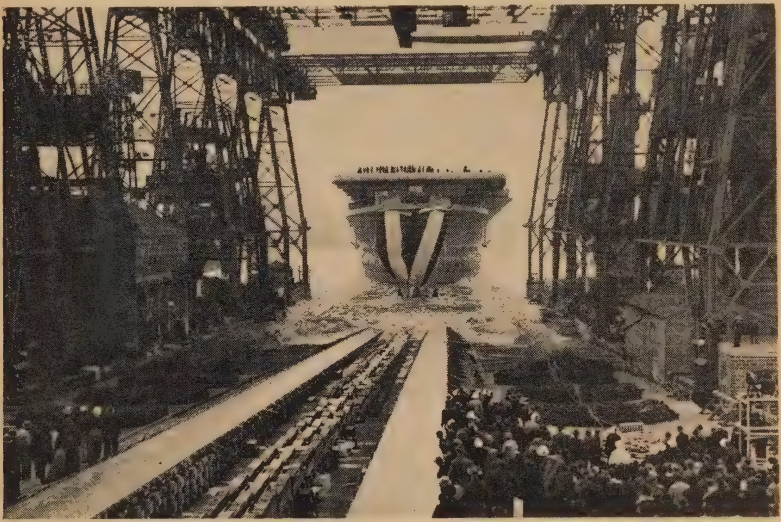
From one aspect alone, then, television will bring the word news nearer than ever before to its true meaning.

Television, in opening a million windows of the world, is bound to serve education as a valuable servant.

Much of the knowledge television promises to school children will come from current events programs. A school class, perhaps, will take a televised guided tour through an art museum, or a great aquarium. Then maybe they'll hear and see the President addressing Congress . . . followed by comments from the teacher. After that a short recess and those who choose may watch and hear a few innings of a baseball game that is being played in Texas, 2000 miles away.

Following the lunch period, geography will be taught, not with map and rubber-tipped pointer but by television, with living personalities native to the country being discussed. The class may even find that it is crossing the Atlantic by the Southern route. It is roused by the deep tones of the ship's big steam whistle. "The Azores!" shouts down from the bridge the ship's yellow-whiskered captain.

Here the guide picks up the story. Leaning against the rail, he points to the shore. Sharply outlined against the sky stands the profile of a mammoth saw forty miles long with huge teeth, irregular, sharp. They are volcanic peaks, made fertile and green by soil gradually developed through the centuries by seeds brought across the ocean by winds and birds, the guide explains. He adds that the last great eruption of these volcanoes occurred several hundred years ago. Only here and there the rising sulphur smoke tells of heat and power smouldering. . . . A few minutes more are spent near this little, far-off island. Then . . . The End. . . .



Did you see the champagne bottle break as this great ship was christened? World-important news flashes brought to your home with television.

The teacher talks briefly about the Azores area of the globe and then announces tomorrow's feature. Television is to take the class to the Grand Canyon, "more exciting than the Azores—it's the most sublime spectacle in the world. It's also the greatest example of erosion and I'm going to ask each of you to write me a 100-word essay on erosion after you've seen the televiews of the Grand Canyon."

Not only school children will benefit from television's educational facilities, but the ignorant and illiterate in our country—children or adults—will be enabled to improve themselves by seeing educational features.

Persons not academically prepared to absorb things verbally, nor able to read them from print, will be afforded opportunities for enlightenment via television.

As previously suggested, television can bring about better understanding between nations. Eventually, people in other parts of the world will be able to see us as we actually are, and, by the same token, we will be able to see them as they are.

Since friendship develops only through a certain degree of intimacy, television's magic carpet may well spread out the propaganda of brotherly love. The more we understand and know a people, the more likely we are to be friendly with them.

In Madison Square Garden the bike riders are going around in the sixth hour of the race. Who's your favorite? See him win!

In the minds of most of us, the word "stranger" puts us unconsciously on our guard. A stranger, then, is someone to be skeptical about, and, even suspicious of, until we know him better. Television can perform a great mission in seeing others as they actually are. With the horrors of wars in our midst, it is important that in viewing the magic television can bring that we see its political significance in world affairs of the future.

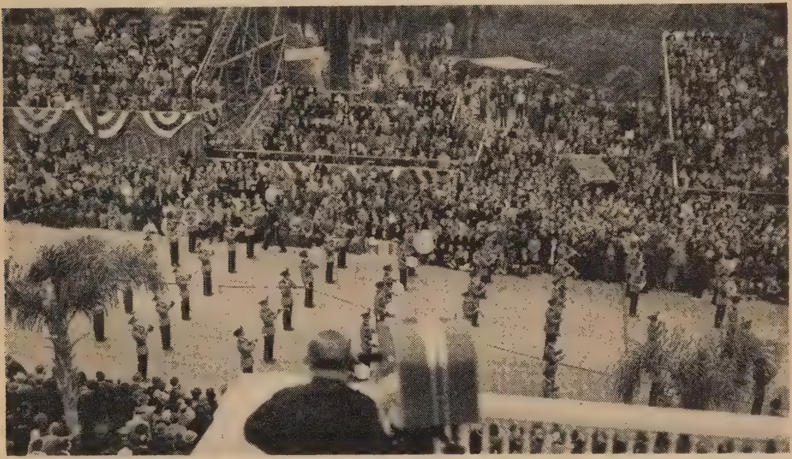
While television can bring new hope to the world from an esthetic and cultural standpoint, it can do great things for the home, the farm, science, medicine, business, law enforcement, etc., in material ways.

At the same time that school children are traveling about the world on television's magic carpet, their parents will be aided in their varied duties.

Experts will show the housewife how to weave a rug, or mix cosmetics, or knit a sweater. She'll agree that the Chinese said something when they asserted that one picture is worth a thousand words.

In various business and professional fields television sets will be of enormous help. They will permit police to inspect finger-print records at some distant office; a manufacturer's superintendent of operations will be able to inspect activities in various plants while seated in a central office.

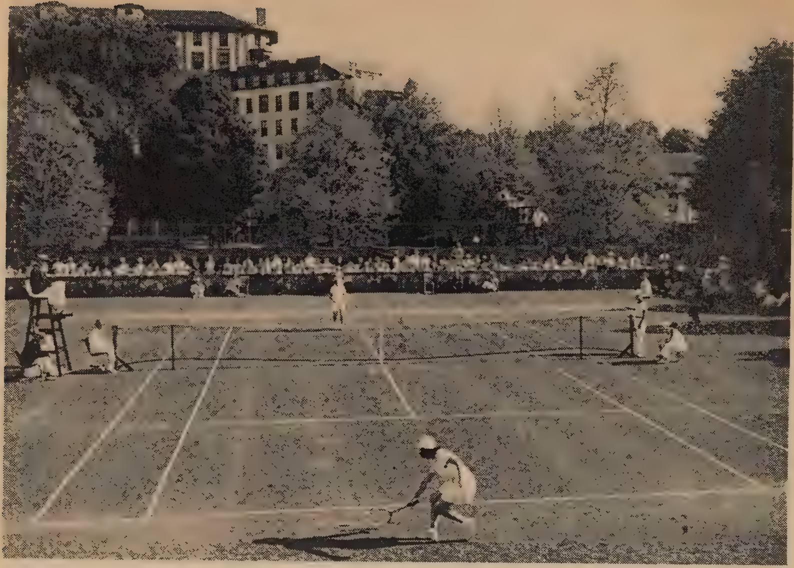
Culture, as expressed in knowledge of manners generally accepted as correct, will be portrayed to the masses through television. For many of us such ease of manner is difficult to achieve. We are self-conscious and thereby make others uncomfortable. In recent years, books on etiquette, and newspaper columns on the same subject, have had millions of faithful readers. The advice comes to them through the medium of the printed word, helped out by a picture or two. Radio is a better medium; no pictures, it's true, but the words on many radio programs are pronounced by social leaders, well-trained actors, college professors. They give us a smattering of culture, help us to speak with greater correctness, even to make pretty speeches—the Charles Boyer brand. Television tops *all* these media, for it combines the best features of the newspaper, book, radio, stage, screen.



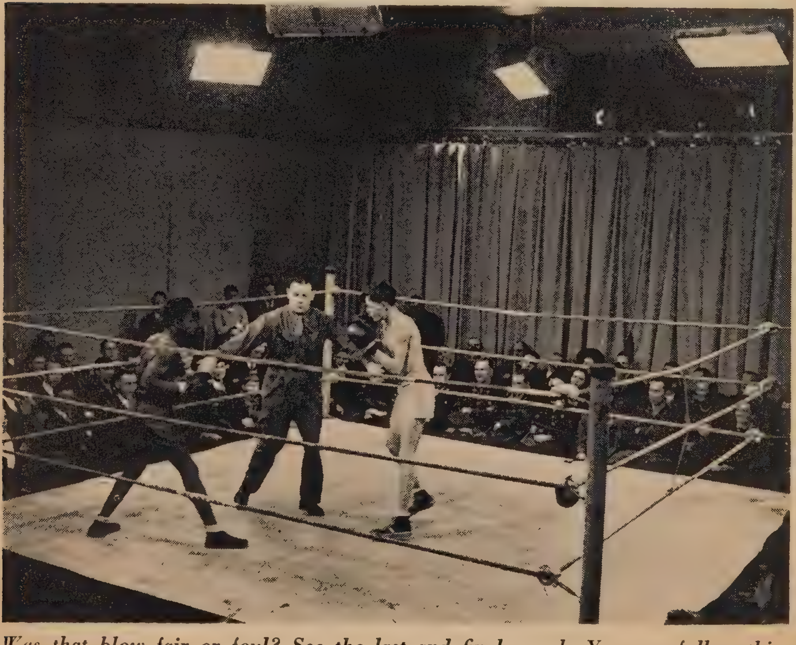
Everyone loves a parade and particularly one that you can see and hear without traveling miles to get there,—Pasadena Tournament of Roses.

Yes, it can show us Mayor La Guardia gesturing as he greets Queen X, and how Congressman Baldwin 3rd swings a stick on Park Avenue on Sunday. It can show us Joe Louis withholding a blow which would have been "legal" but which he thought would be unfair to his opponent.

Television will show us national and world celebrities at public dinners where everyone is on his best behavior. It will teach us how to hold a coffee cup with casual correctness and demonstrate whether dunking is



The score is six-five, love-thirty! What a game to watch from your easy chair in the shade and cool of the home porch.



Was that blow fair or foul? See the last and final punch. You can follow this prize fight, blow for blow, with television.

comme il faut. It may teach us some of the 1000 ingredients which, combined, result in charm, that indefinable something that is more precious than rubies.

No doubt about it, whether a television set costs $200 or $1000, it is likely to prove a profitable investment, quite aside from the wealth of entertainment which it will furnish during its long life. It has cultural value. Mothers anxious that their offspring acquire the social graces send them to a good dancing school. They may well ponder whether the purchase of a tele set is not obviously an expenditure of similarly worthy character.

The merchant considering selling television will have plenty of opportunity to glamorize the product he is to sell. The wonderful things—almost magical—that are being predicted today for television tomorrow, will, a few years hence, seem trite and unimaginative in light of the new vistas television will open—the new purposes to which it will be put.

The dealer who plans to get on television's magic carpet will participate not only in a marvelous new contribution to humanity, but will also share in substantial rewards for making television available to his customers.

Stake Out Your Claim in Television Right Now

Business experts who've prospected in the practically unworked gold mine—Television—say there's plenty of pay ore for those willing to file claims now. Get started soon to make sure television will ring up big profits for you, and increase your prestige.

Think of your market—your territory—as *people.*

Your community isn't merely a number of square blocks on which there are a number of houses.

People live on those blocks. Flesh-and-blood human beings live in those houses. How are you going to reach them? How are you going to establish person-to-person contact with them? How are you going to make sure it is *you* they turn to when they decide to buy a television set?

And they are going to buy television—every last one of them who can afford a television receiver is going to buy one . . . and a good many who can't afford one, are going to buy one anyway, on time payments. Whether they can afford it or not, everybody will want a television receiver, and the wise dealer will stake out his claim now to get his share of this business.

Now, don't get the idea that selling television is going to be easy. Far from it. Don't let your enthusiasm blind you to necessities. Don't get the idea that all you have to do is put a sign out front with the word "Television" on it, and the whole town will immediately flock to your store. Not at all. Maybe that stupid competitor down the street who, in your opinion, doesn't have brains enough to come in out of the wet, will get all the television play. If he does, there will be a good reason for it and maybe the reason will be found within yourself.

Maybe he's staked out his claim in the television market already. Maybe he planned ahead, and planned right, and you didn't. That's why we reiterate again and again in this book—plan *now* to sell television. Beat your competitors to the television punch!

Now let's get back to those people who compose your territory. What are you going to do about them? How are you going to get your television message to them? There are many ways.

First, let's get clearly in mind that television is going to be a high priced piece of merchandise, compared with today's average radio receiver. It isn't going to be a question of handing it over the counter, like so many apples, or, for example, like so many $20 radio sets.

Television selling will be specialty selling. It will have to be merchandised in the highest sense of the word, as is any item that costs $200 or more.

It will take us right back to the days of the late 1920's, when the average radio receiver was selling at that price. You old-timers in radio know what we're talking about. To you younger men it will be a challenge . . . a challenge to go out and meet those people who live in those houses in your community . . . meet them face-to-face and talk to them about television, interest them in it, sell them on buying it . . . and what's more important, sell them on buying it from you. That's what we did from 1925 to 1930 in radio, and that's what we're going to have to do from 1945 to 1950 in television.

Wm. P. Squire Co.
AUTHORIZED DEALERS
Philco
Delco Heat
Westinghouse
DU MONT
TELEVISION

Television! The more you use the word in connection with your business, the more people will associate your name with the television business—and will think of you when sets are again for sale.

You have two great potential sources of television prospects—first, your present customers; and second, everybody else in town who has,—or can get credit for,—$200.

Naturally, you'll start with your present customers, and right now is not too soon to start talking to them about television. Let's assume that you already have sufficient knowledge of television to talk intelligently about it . . . or, if you haven't, that you will, by reading and study, equip yourself with the necessary knowledge. You will find it the most profitable reading you've ever done!

You have many sources of names and addresses, almost at your fingertips. Foremost, as always, is your list of present customers which can be worked for the names and addresses of interested friends.

When calling your present customers on the telephone, don't try to sell them television yet. Just inquire about their friends . . . tactfully, of course. Perhaps like this:

(after introducing yourself) "I was thinking, Mrs. Brown, that some of your friends may be interested in television. You know, television will be here soon, and we're beginning to plan for it now. Everybody will want a television set and there will only be a limited supply, at first. But nevertheless, we want to supply as many people as we can, as soon as we can. You are one of our good customers, and I hope you won't mind if I ask you for the names of people you know who will be interested in television when it comes."

Jamaica
TELEVISION
HOME
AUTO
RADIO
Jamaica
TELEVISION
HOME
AUTO
PAIRS
Television Hdqts.
Jamaica RADIO TELEVISION CO.
PUBLIC NOTICE!
148-16

This is a current picture. It shows how a live-wire dealer in Greater New York is advertising now for television customers in the postwar period. Your show windows boost your business.

Maybe Mrs. Brown will give you some names, and maybe she won't. The chances are she will, and you can assure her that you will not mention her name, and, in fact, that you are not yet in a position to do any actual soliciting; you are simply preparing a list of names and addresses for the future.

Now, the chances are good, too, that Mrs. Brown will come back at you and express interest in television herself. Then you can mention the "priority plan" that is part of the process of staking out your claim so as to insure your getting a fair share of the television "diggings."

This priority plan is very simple. Here's how it works: start a separate card file . . . nothing elaborate . . . just something in which you can keep a number of cards large enough for a name and address and the usual information you need in order to qualify a prospect. As soon as you obtain the name and address of someone who is interested in television, make out one of these cards, which, for want of a better name, you call your "Television Priority List." Make note, also, of the date, and give each card a priority number, beginning with "A-1," continuing with "A-2" and so on.

Television—it's wonderful! At public gatherings people can be interested in television and will begin talking it up. Sales are being ready-made for you now, and you'll get them if you're willing to do your part.

Then, when you actually have television in your territory, and you have television sets to sell, you will have a ready-made list of hot prospects to go to work on.

Now to explain your priority plan to Mrs. Brown. If she doesn't take the initiative herself, don't let the opportunity slip by. Ask her the direct question if she wouldn't like to have a television receiver as soon as they are available.

Explain that the demand for sets is going to exceed the supply for many months after television comes to town and you want to take care of your good customers first. So, you have started the "Television Priority Plan."

Explain that there is no obligation involved, that no payment is required, and in fact, Mrs. Brown doesn't even have to sign up if she doesn't want to. But, of course, you go on, the customers who do sign up will get first choice of the best sets.

Say that you'll be glad to send her a simple television agreement that she can talk over with her husband, and if they decide they want to get in on television right at the start, they can sign it and send it back.

Then you send her a simple printed form, that might read something like this:

JONES RADIO AND TELEVISION CO.

Television Agreement

Please enter our name on your priority list for first choice on a television receiver as soon as you receive your first shipment. We understand there is no obligation involved. This merely gives us the right to buy one as soon as television programs can be received in this territory.

...........*(Date)* ....*(Name)*

...........*(Priority No.)* ....*(Address)*

Of course, you keep a duplicate card in your own file, for following up if you find it necessary.

Now, here's a point—don't fill in Mrs. Brown's priority number before you mail the card. Leave it blank. That may be the one bit of information that Mrs. Brown wants to know before she signs, and it will be an inducement for her to get in touch with you, and find out what her priority number will be. You will give everybody a high number, of course, as an inducement to sign.

This is a simple, effective plan that you can use, not only in telephone selling, but with everyone who comes into the store. Take full advantage of it. Explain it by telephone, and in person, to every customer. Build up the biggest list possible, of interested, prospective television purchasers. It will be as good as money in the bank, as soon as you can start actually selling television sets in your store.

In addition, make use of every possible source of names and addresses. Let's list them briefly.

Your local telephone book is a good start. Everyone who owns a telephone will want a television set. And don't forget to list store owners as well as residents. Fortunately for us, storekeepers have found . . . in those territories where television is now available . . . that a television set is one of the best attention-getters there is on the market. It attracts crowds of people to every store that has one. So, list store owners, too, particularly restaurants, cafes, beauty parlors, barber shops, poolrooms, bowling alleys and others catering to sidewalk trade.

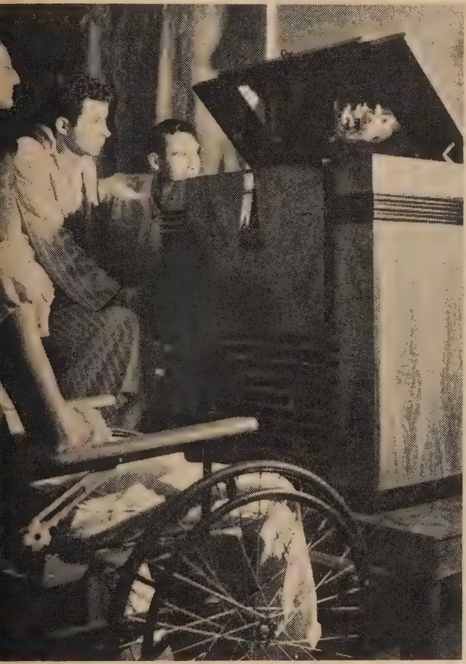
Make plans to obtain lists of local club members.

Watch the daily newspapers, particularly the society columns, and list the social leaders in town.

See if you can make or obtain a list of the office-holders in town, leaders in political life.

There are many ways to get names and addresses. Don't neglect a single one. Get together as big a list as you can, and be ready to roll when production of television receivers begins.

If you get ready now to sell television, if you become identified with it, when television comes to your town you will be the dealer who will have the sales. Make yourself known as the Television Headquarters of your community. A customer who wants a television set, since he has read and heard so much about it, will naturally head for the store which is associated in his mind with television and that store must be yours. It's up to you to make it that way.



Our heroic wounded are finding television a wonderful boon to recovery. The new electronic marvel can serve rehabilitation in a big way, and help make life brighter and better.

A hit parade of pictures that live and speak! That's television. A rationed and curtailed public will take television to its heart when normal living is here again.

To become known as a television center, now and later on, consider inserting the word "television" in your firm name. If you are The John Jones Radio Co., make it The John Jones Radio & Television Co. Make that name prominent. Put it on your show window—put it on your letterheads, bills and labels.

Many large radio manufacturers are diverting a big part of their advertising appropriations into a television campaign. They are explaining in national magazines to your customer what television does, how it works and what happens backstage, to get him television conscious. Take advantage of this "breaking ground" and keep him interested.

Note the different approaches the manufacturer uses to sell John Q. Public on what television is—little cartoons of how television works, the wonderful, magical things to see, and the inside dope of what goes on in the studio. It might be advisable to display each phase in prominent places in your store.

What are these manufacturers who are devoting so much time and money to talking and writing about television, planning to do in the future? Get in touch with them. Write letters asking what plans they have made for making television receivers. Tell them about your set-up and your intentions of getting a seat on this bandwagon. Let them become familiar with your name and ask advice as to what you can do now. They will, in turn, of course be glad to send you any literature they may have on the future of television and any posters which might be helpful to you for display.

TELEVISION
RCA Victor

You need vision to sell television properly. Attract people to your store and you will attract their business when they are able to buy what they want so much right now—Television.

Train your sales force and service men to think and talk television, as suggested in other chapters. Let them become as conscious of the new merchandise as you are, and begin to spread their enthusiasm even to the customer who wants a single phonograph record. For enthusiasm is contagious and your customer will be waiting as eagerly as your salesman for the cabinets to come off the production line. This is staking out your claim—and doing it effectively.

How can you go about getting your salesmen to help you stake this claim? Let them study the markets—mentally rehearse the wonderful advantages to each type of consumer. Tell them to talk about television to their wives and children, to find out their reactions—and you can be sure they will be good ones.

One dealer we know in a television area is going ahead right now, and besides attracting future customers for television is augmenting his sales today of records and repairs. Every Wednesday evening he uses his receiver to publicize himself, and shows television programs to any and every one who is interested. In this way he builds up a big list of prospects for television receivers. The entire community is familiar with this radio man's television shows and many have expressed desire to buy receivers.

To those in territories where television programs are not yet being broadcast, some of the suggestions in this book may seem out-of-place—things which might better be postponed to some indefinite future date. But don't kid yourself. There are many, many things you can do now—today—to get started in television.

Just take this one idea, for example, of talking to your present customers about television. You don't have to move from the counter of your store to do that. Have something available that will help you to bring the subject up . . . pictures of television sets, television articles from newspapers and magazines, manufacturers' television advertisements, pictures of television studios.

Have them handy, for easy, ready reference. When talking to a customer, take advantage of a lull in the conversation to ask something along these lines: "Have you seen any of the new television receivers?" The answer will undoubtedly be, "No," and the customer's curiosity, plus your own initiative, will enable you to plant another television seed which, sooner or later, will develop into a television sale.

Remember, your main objective at this time is not to take actual orders for television receivers. For the time being, you have nothing to sell . . . except your own reputation as the television leader in your town. Your objective is merely to get them talking about you in connection with television. When you have accomplished that purpose, the sales will come along as a matter of course later on when the first television station reaches your community.

Stake out your claim! Now!

Work Your Television Territory

Two things are necessary to make mining pay. You must locate the richest veins, and you must dig! Your prospective customers are the pay lodes you must locate, and you'll have to work to get results in television selling; to get the most out of your community.

The preceding chapter sees the dealer "staking out" his claim in television. This present chapter sees him preparing to *work* this claim.

It is one thing to "stake" a claim, but it will never yield any pay dirt unless you work it.

Television is certainly like a rich gold mine—a mine from which only a handful of nuggets has been removed. Dealers, like the miners of old, are lined up waiting for the "gold rush" to begin. Those who'll eventually make the biggest strikes are those who'll get there "fastest with the mostest."

It's one thing to gaze off into the horizon and say "there's gold in them tha'r hills." But it's another thing to go to the hills and do some plain and fancy manual labor with pick and shovel.

The hard-boiled dealer—and that means you, if you've managed to stay in business this long during times like these—likes to view his territory as a mine, and his place of business as the mine headquarters shack. Here in the shack he blueprints the most promising veins in that mine, and he makes plans to dig in and bring out gold; and he's dead certain that, after determining where the richest veins are, the harder he digs the richer he'll get.

He knows the ore will not roll into his store. He knows that gold is where you find it.

Right now, the dealer has in his possession a device with which he can discover where the television gold lies. It's a sort of "divining rod," this device, yet it doesn't operate through witchcraft, jungle drumtalk, or spiritism. It operates on a common-sense basis, and while it's composed of but a few cents' worth of paper, its has magic words on it which can be made to blast into the television pay-vein like a charge of high-percent dynamite!

This device is nothing more or less than a "prospect" list. Names of people who have two things the dealer is interested in. They have a desire for television, and they have cash.

The thing to do with this device is to put it to work now. Survey your television territory now. Dig out that old customer list and bring it up to date. How you bring this list "up to date" depends upon what facilities you have at your disposal, and these "facilities" include physical facilities and the amount of time you are able to devote to it.

Working your territory, and sizing it up is a man-size job. But never forget that it will pay a man-size income.

TELEVISION
for the Armed Services

Give free demonstrations in your store at any time that television programs are being broadcast. This means keeping open "after supper." Let television become as familiar as radio.

We told you in the literature we sent you, which resulted in your ordering this book, that the messages you'd read would be free of bunk, theories and guesses. We're proving, here, that we mean just that. And further, that we know your problems—your current problems. We know these problems, and we see them in the same light you do. And for this reason it is necessary for us to explain in some detail how you can work up, and translate into today's vernacular, a prospect list, when you're up to your neck in work and surrounded with problems of finding enough materials and enough time.

It would be a cinch to tell you to make a house-to-house canvass without explaining how it's possible to do so under present conditions.

It would be easy, also, to tell you to get on the phone and call all your prospects, and invite them to buy television from you when the sets are available, without telling you how it can be done even during wartime.

The only way, therefore, is for us to come in your place of business, and take over your problems for a while, and see how, in times like these, we can lay plans for working your territory.

Perhaps—and quite likely—you are rendering repair or maintenance service of some kind. Maybe this maintenance operation is profitable, but it's almost certain to be true that you're up against a serious problem in hiring and keeping employees, and that you, yourself are run ragged with work.

And for the home gardener who is one of your prospects, tell her that programs are being broadcast to show her how to make the most of the garden.

So how the devil can you work up a prospect list—and, why should you do it?

We'll attempt to answer the question backward. "Why should you?" is simple. Because if you don't know now who's going to buy television tomorrow, you're going to find the business divided up between "everybody and his brother." . . . And, instead of finding yourself the leading television merchandiser in your territory, you may wind up as a Sad Sack, holding the bag and no aces or face cards.

Now, for that old customer list. Dig it out now and look at it. It's true that a lot of the names are mere "telephone numbers." It's true that some have long since died, moved away or otherwise have changed in status.

However, you, as the merchant, may be able to scan such a list and correct it to a great extent. Maybe someone in your sales staff can do it.

Also, it is true that a number of merchandisers have thrown away complete prospect files, and if you've done this, you'll have to start from scratch, which isn't too serious a job to contemplate.

Summing up working your territory, as far as customer contact out of your store is concerned, a few suggestions for analyzing your potential sales in television are offered:

1. Make "surveyors" out of your servicers. Give them each a simple form, and let them ask each customer to fill it out. Give them television manufacturers' circulars, with your name imprinted on them, to hand out to customers. Give the servicers "priority" orders for customers to sign. Ask your employees to tell householders that television is coming, and that they will surely want to own receivers.

At the church bazaar or other local affair, install a television receiver for a demonstration, and show the community what beautiful religious services are being televised.

2. If, in your community, there are telephone directories containing current information about residents, work up a prospect list from this source. Perhaps there are other compiled and fairly recent lists you can hire or buy. These are worthwhile, especially if up-to-date. Work these lists.

3. If local conditions permit, telephone canvassing can be done with some measure of success, but because these are abnormal times you'll get unusual results. You'll find that the percentage of persons at home these

days has shrunk considerably. But you will find a peculiar about-face on the part of the person you are able to contact over the telephone mostly in the direction of giving cordial interview, since the subscriber is not harassed these days by sellers, or you can carry on "friendly" conversations with your old customer friends as suggested in the previous chapter.

4. With the present dearth of door-to-door callers, the housewife is in a much more receptive mood, by and large, than she ever was before, and it is much easier to secure interviews now, because of this. Also, you do not have to employ experienced people for this canvassing. In view of these facts, it is often possible to employ part-time services of school students, etc., to make a survey for you. Compensation can be based on hours worked, or at so much a name.

In your community undoubtedly there are first-aid courses, and for the housewife who can't leave the baby, she can learn at home.

Canvassers should do two things for you:

(a) They should verbally "sell" the customer that your store is going to be television headquarters, and leave some piece of literature with the prospect.

(b) They should make every endeavor to "qualify" the customer, by asking a simple question, such as: "Mrs. Jones, will you buy a television receiver when they are available?," and the caller should make a few notes on the card for the dealer to use in gauging his potential market.

Remember, then, that this is a most advantageous time to canvass if you can possibly do so. When selling starts again, and doorbells commence working overtime, receptions experienced by canvassers will diminish in cordiality, and only the hardiest sort of individual will be able to stand the gaff.

There is still another way you can line up prospects outside your store, and that is through advertising.

You can buy space in your local newspapers.

You can become your own press agent by writing articles for the local newspaper; or offer to give interviews to the press.

You can "buy time" on nearby radio stations, or sell television on the time on the air you may now be using.

Right here, we're going to inject something a little different. The writer has been worrying over a little memo written on the assignment sheet for this chapter. This memo reads: "When television programs are 'in sight' for your town . . . " etc., and then goes on to offer suggestions on working the territory.

Suppose you've read along this far, and you don't see any prospects of television reception being available in your territory in the immediate future. What then? Having spent money and time securing television customers, and then realizing that you can't be expected to sell sets when there are no programs, brings up a puzzling problem.

There are, however, two pretty good answers:

1. If, when television receivers are available, programming is still not to be received in your territory, your prospects will certainly want to buy new radios, so your preparatory efforts will not have been in vain.

2. We Americans are really mechanical and technical supermen, and we're tops in business affairs. We have always found ways and means of supplying the demand, and of accelerating the means to do so. The demand for television has already been dumped into the laps of American industry. We know that in order to sell lots of sets, we have to have program coverage, and it seems to be safe to predict that since we know how to blanket the country with television, we will do just that and we'll do it with our customary amazing speed.

So, with that off our chests, let's look into the inside of the store and see what we can do to successfully work this "mine." Since the store itself is the headquarters, it's the place where miners in other fields come in, to bring us what they've mined in exchange for what we have to interest them.

If you, like many another dealer, decide to go "whole hog" in television, you've just got to make your store interior and exterior sing and sell television. You have to prepare your place of business in such a way that when television receivers come in your store, people will want to take them off your hands and have them in their own homes.

The greater your facilities are for selling television the faster you'll "get shed" of the sets, which, after all, is the only thing you're interested in —move 'em out fast! Maybe they're pretty pieces of furniture and all that, but you'd get awfully fed up just sitting and watching them.

Of prime importance and direct relation to television receiver selling is

And for your housewife, too, there are cooking classes. She can surprise her husband with a light, fluffy cake for supper, just learned over a television receiver.

demonstration. More than ever before, you're going to have to be a good demonstrator and a good sales dramatizer. So, now is the time to map out a floor plan to display sets; demonstration booths where people can see and hear programs in comfort and in attractive surroundings.

New techniques will have to be employed. You should be set up to provide proper picture projection, and this will involve more space than is necessary in demonstrating ordinary radio.

You must have suitable grounding facilities, adequate and unfailing current supply sources, good antennas, etc.

You must expect to be called upon to do most of the demonstrating "after supper" and at night, and therefore you'll have to figure out the right kind of a deal for your salespeople, and a workable time schedule.

You should start thinking now about the possibilities of partitioning off a "Television Theater." Television needs a quiet setting—it doesn't have to be too dark—but it should be partitioned off, with comfortable chairs, and a degree of privacy . . . a place where customers can relax and really enjoy the sight and sound of television.

Talk about the comfort of sitting in your own home and seeing the latest in metropolitan entertainment. Tell the customer of the great things in store for him.

You will need such a theater for two reasons—first, to make television demonstrations to individual customers . . . and second, for large demonstrations to invited audiences . . . a plan you will read more about elsewhere in this book.

Probably there will be few, if any, home demonstrations of television except in special cases. An adequate aerial takes time to install and the expense will probably be too great, unless you are very sure the customer will buy. If your experience follows the experience of dealers who are already selling television, at least ninety percent or more of your television demonstrations will be made in your store rather than in the customer's home. Don't rule out entirely the idea of home demonstrations, but at the start plan to make the great majority of them right in your store . . . and in some kind of a specially-prepared "Television Theater."

This "Theater" should be located near the front door, and in the path of the greatest store traffic. You will want to arouse the curiosity of the largest number of people. In fact, it is an excellent idea to mark off that space right now . . . or at least, enough space for a neat, attractive sign to read:

"When Television Comes, Our
Television Theater Will Be
Located Here. Watch For It."

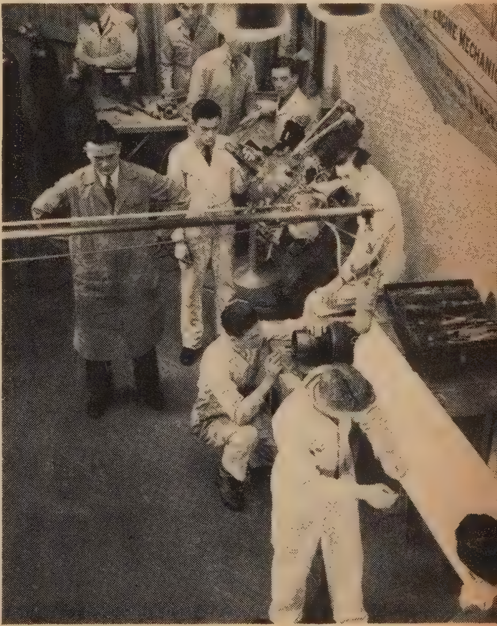
Place it so that everyone entering the store will be able to see it and read it. Make no mistake. It will be one of the most widely-read and talked about displays in your entire place of business.

Right now, without sets, you can plaster up your place with television reminders. Signs, pictures, clippings can be used.

Set up a "priority department," where people may be urged to sign on the dotted line now for that television receiver on a first-come, first-served basis. This plan is discussed fully in the preceding chapter.

One southern dealer we know of is operating a "priority purchasing club," and customers are paying him dues monthly to be applied to future purchases of television sets and other appliances. We admit this to be a little far-fetched, and a pretty tough proposition to carry out, and all that, but it shows a trend . . . and a very aggressive one on the part of this dealer. And there are lots of other merchants through-

The home mechanics learn how to build model airplanes, or about other interesting crafts, right along with students in mechanical training.



out the country who are actively working now to get in on the ground floor in television sales.

The Franklin Square National Bank of Nassau County, New York, has instituted a unique plan whereby residents of the community deposit certain sums each week in accounts earmarked for specific postwar product purchases. Twenty-two percent of depositors participating in this plan are saving specifically for television home receivers, priced by the bank at $400.

An official of the bank pointed out that if these preferences, as evidenced in this Long Island town of 10,000, can be taken as a basis for estimating the postwar product wants of the rest of the country, then 320,000 people residing in the first television market area can be expected to make similar savings for sight-and-sound receivers if the plan were available to them through banks in their localities. This first television market includes the areas being served today with television programs by transmitters located in New York City, Albany-Schenectady, Chicago, Los Angeles and Philadelphia, to which Cincinnati will be added within a few months after the war.

Is it wise to spend money now in setting up demonstration booths, and other store improvements for television, or is it safer and better simply to blueprint these things? This question is one of deepest concern, and is answered best by first asking another one—and this is—"is television actually coming in a big way, and will my store be full of sets for sale?"

. . . And the answer, obviously to the last question is YES, in capital letters.

Now, therefore, the first question breaks down this way:

Can you possibly afford to devote the time to doing this work now?

Can you make the necessary investment now?

If you answer yes to both questions, what can you lose? Nothing! Television sales are certainly coming. A new, and attractive store interior will pay you anyway—particularly these days when so many stores have been allowed to develop into junk shops.

Even if television were in its infancy, and you were selling ordinary radios, with no immediate prospects of handling television sets for a long, long time, it wouldn't hurt you or your business to make people in your territory look upon you as the fellow who's always posted on any new electronic device.

In one of our large cities, when television receivers were available, a radio dealer sold a total of 150 television sets. A nearby department store, having huge assets and facilities compared to the independent dealer's modest capital and limited facilities, sold but three sets.

There are two answers to this seemingly paradoxical case.

1. The independent dealer had successfully publicized himself as the leading television man in the section, and had been successful in identifying his store as television headquarters.

2. He used every means of dramatizing television before the eyes of the prospective customer, and employed colorful and potent selling techniques.

You can stock the finest line of television receivers, and you can have within your organization the best television technicians available; offer the most advantageous financing plans; maintain a flawless service set-up . . . and yet do practically no business in selling television receivers, unless you blow your own horn.

Obviously, you must make the vision of your store pop up in the prospective customer's mind when he thinks of television. There are definite and simple steps you can take at this time to do just that.

Many dealers are taking such steps now to insure their places in the television selling picture because they realize, in the final analysis, that they must not only have the merchandise to sell, but they must have the customers to buy it.

Long before he was able to get television receivers, the dealer before mentioned in this chapter, started to plug television in his show windows, and in the attractive showroom he maintained. He talked television to all his customers, and sowed the seeds of desire in their minds. This man really knew all about television, but more importantly he made the people in his territory believe that he—the dealer—was the television wizard, and no mistake about it.

The writer called on this dealer recently, and found that his entire store and show windows were just oozing television, and that the television "shows" this man gives three nights a week were packing people in.

In order to test what effect all this television propaganda was having upon the territory served by the dealer, the writer stopped 10 people on local streets, near and far from the dealer's store. Men, women and children were included, and every person, when asked the question, "Isn't there a television expert somewhere near here in business?," mentioned this dealer, and declared they knew that he was the leading television man.

Then the writer applied the trade's "acid test"—and honestly didn't believe that the television merchant would survive it. The writer went to this merchant's competitors—two of them—and both mentioned the merchant we speak of as a television expert.

In successfully working his territory, this dealer even "sold" his competitors. And we'll all agree that's a feat of no minor proportions!

So the importance of becoming a missionary for your own business is obvious in television.

First, then, we *stake* our claim in television, and then we *work* it. If we do this now it's going to be much easier for us when we commence to operate in the selling market, and it's going to be much harder on the busy cash register.

Plan Your Television Sales Campaign

Orders for telesets will follow if you organize, advertise, and sell! Use the telephone, newspapers, direct mail and imaginative promotional stunts, such as "priority plans," demonstrations, "theaters." Work community clubs, county fairs and schools for television prospects.

"I want my men to know where they are going, and why. And I want them to know what they are going to do when they get there, and how they are going to do it. And I want them to know those things well in advance of the attack."

The words are General "Ike" Eisenhower's. And they sum up the reasons for his success in planning military campaigns.

We who are planning for television can find a lot of good red meat in that philosophy of General Ike's. We, too, are planning a campaign . . . not a military campaign, that's true . . . but even in a sales campaign, the man who is most likely to win is the man who "knows where he is going, and why; who knows what he is going to do; and how; and who knows it well in advance."

That's why we urge you to plan your television sales campaign now. Of course, it goes without saying that none of your television selling plans should interfere with present sales activities. Until television comes, you still have your living to make.

But you can make plans in advance—and you can identify yourself definitely with television.

One of the foremost items in any sales campaign is advertising. You plan to advertise, of course. You plan to include the word "Television" in the name of your store, or in your radio department. That will be a good start. But real television advertising will go much farther than that.

You will want to plan how much you can afford to spend on advertising, what mediums you will use, and what you want to say.

Let's first say a word about how much you are going to spend.

To a large extent, that depends upon your sales expectations. It also divides into two definite periods of time, each of which must be considered separately. The first period is the present, when you do not as yet have actual television sets to sell. The second period will start when you do have television merchandise on your sales floor.

During this first preliminary period, your television advertising can well be included in your present advertising budget. No big splurges are necessary . . . no "jumping of the gun" that will mislead your public into thinking television is so near that they might as well postpone buying that new radio set. An occasional reference to television in your regular advertising, perhaps an occasional "teaser" ad devoted to television alone, will suffice.

Check up your prospect list and know the status of each possible customer. Issue tickets to these names, "admission free" to your "television theater."

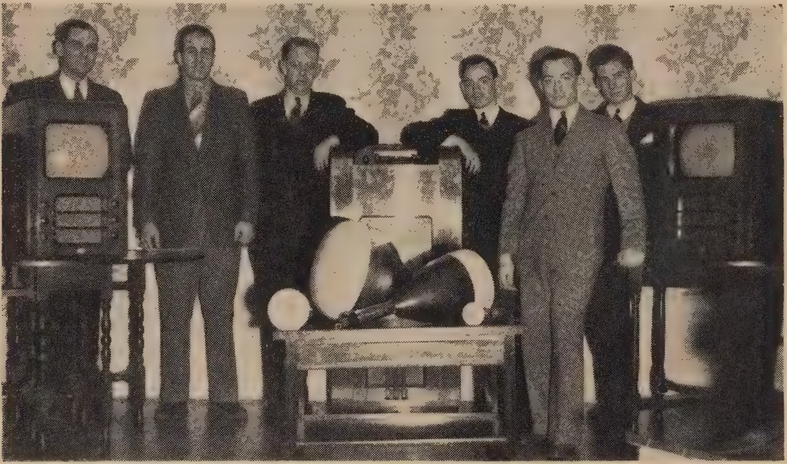
But the second period is something else again. With television broadcasting available and television sets on your floor, that's the time to let go with all guns—the whole broadside.

At the start of your actual selling campaign, you will need to spend more than usual on advertising. How much? Well, what is your anticipated television sales volume? You should have some kind of a monthly sales quota, which you will consider as 100 percent. Your expenditure on advertising will be a certain percentage of that figure.

In setting a sales quota, per month, decide how many television sets you are fairly positive you can sell to your present customers only, month-by-month, for a period of, say, six months after the advent of television. Multiply that by an average sale of $200 and you will arrive at a dollars-and-cents figure. It may not be too accurate, but it will provide a starting point that can be corrected from month to month as your actual sales experience with television builds up.

For the first few months of actual television selling, plan to spend about ten percent of your total television sales volume in advertising. That is a fairly high percentage, but bear in mind that you are creating a new market. You are laying a foundation for future sales and more or less of a splurge is in order.

Then, after the first few months, taper down your advertising appropriation until you are spending about five percent on advertising. You should reach this figure about six months after your television sales begin, and let it stabilize at that level permanently.



Give many demonstrations and sponsor contests. Take photographs of the winners and advertise the pictures. Mount them and put them in your window.

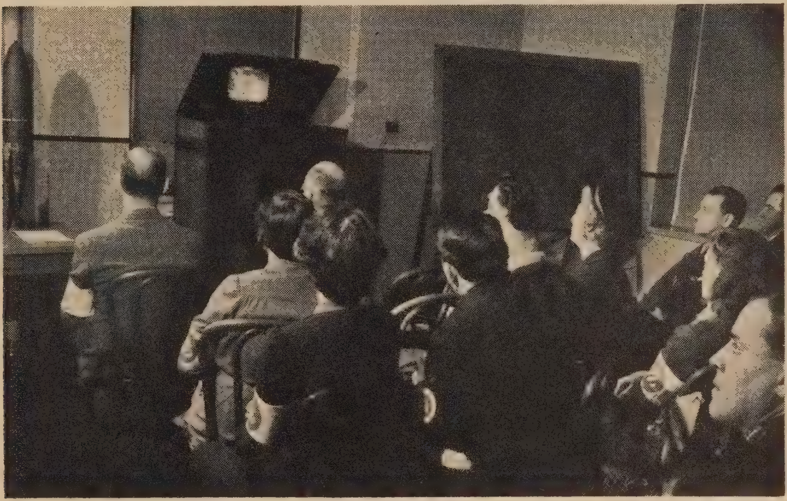
The advertising mediums you will use will depend entirely upon your past experience. The past record will also dictate how you will apportion your total appropriation among various mediums.

Your experience in selling radio has probably already indicated to you which mediums are the most successful for you . . . newspapers, direct-mail, local radio stations, or stunts. No better advice can be given than to follow your own past experience in deciding which mediums to use, and where to place the greatest emphasis.

Yet, in television, it will pay to consider the use of all four of the above-mentioned mediums, even though, in the past, you may have had bad luck with one or more of them. Never lose sight of the fact that television is new. What did not work in selling radio may work very successfully in selling television. A well-rounded television advertising program—at least at the start—should provide for newspapers, direct mail, local radio stations, and stunts. If any one of them fails to pay adequate returns, you will of course discontinue it, and concentrate on those types of advertising which prove to be most effective for television in your community.

Now, a word about what to say in your television ads. When you have sets to sell, it will be no problem. You will advertise the individual merits of the make or makes of television receivers you sell. You will then be in a competitive market, and the public will want to know why they should buy your line rather than some other make.

But before you have television sets to sell—and perhaps for a considerable time afterwards—you will be selling the wonders of television—building up public anticipation—and identifying yourself with this new industry.



Tell your customers of the many classes of instruction in various activities that are held by television. Cite for example the training of tens of thousands of air raid wardens by television.

Television set manufacturers, right now, are doing the type of television advertising you will plan to do in this preliminary period. Let's pick out a few lines, at random, from manufacturers' television advertising in a recent issue of "Radio and Television Retailing."

"A theater in every home with Television. Practical television within reach of every home will be but one of many postwar developments in radio."

"Some day soon, owners of television receivers will sit comfortably in their homes and the whole world will come alive with startling clarity right before their eyes."

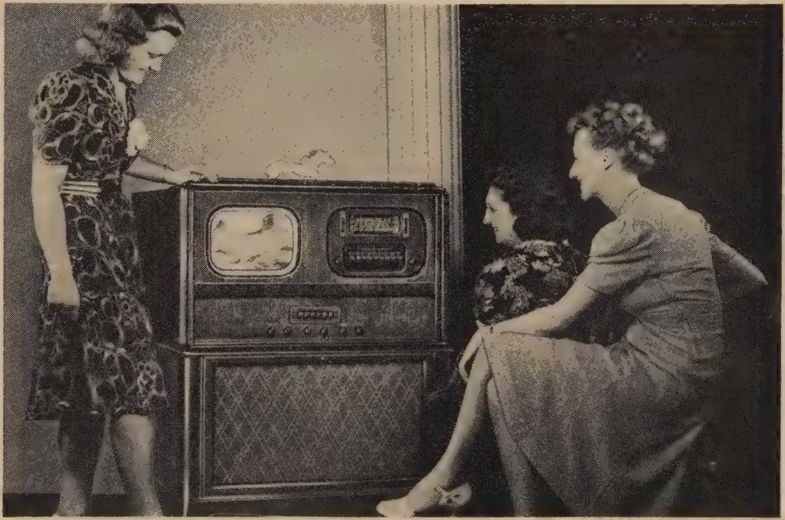
"Today, Television is as good as 16 mm. motion pictures. Tomorrow, television will equal the present high quality of the cinema."

"Television stations will serve virtually the same radius and primary areas as today's leading radio stations."

"Today, thousands; tomorrow, millions, will have ringside seats right in their homes with television. When its great promise is finally fulfilled, television will make of your living room a place to see important and stirring events while they happen—as many things, in fact, as the human eye itself can see."

"It doesn't matter now whether clouds hide the sun, or whether evening shadows fall on the baseball diamond. If the fans in the grandstand can see the game, so can the modern television camera."

"The biggest window in the world—the television screen in your home. Through it, a man can see the world."



Talk television to your women customers. Show them the comfort and ease of sitting in an arm chair and watching the many things of interest which will be telecast.

"It's been quite a while since you had a brand-new kind of product to buy. But the greatest new merchandise in years—TELEVISION—is on its way!"

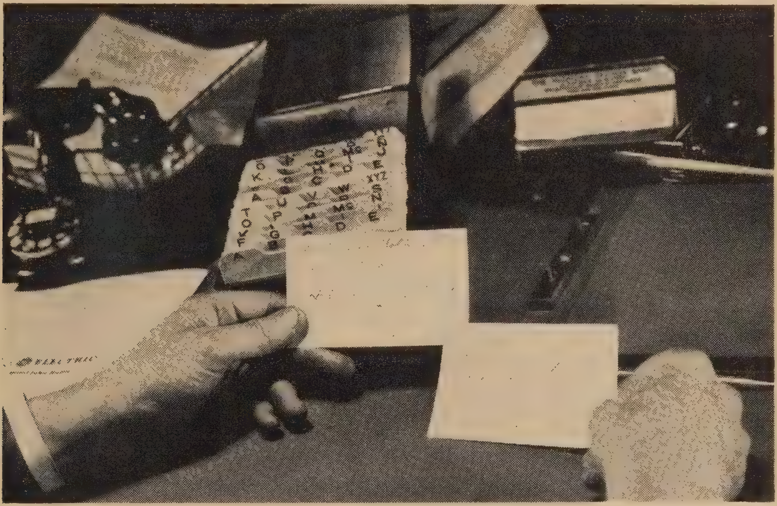
"You'll be an armchair Columbus. You'll sail with television through vanishing horizons into exciting new worlds. You'll be an intimate of the great and near-great. You'll sit at speakers' tables at historic functions, down front at every sporting event, at all top-flight entertainment. News flashes will bring you eye-coverage of parades, fires and floods; of everything odd, unusual and wonderful, and bring them to you just as though you were on the spot. And far-sighted industry will show you previews of new products, new delights ahead! The world actually served to you on the silver screen of Television. You'll be an armchair Columbus on ten-thousand-and-one thrilling voyages of discovery!"

These are some of the ideas and advertising themes you, too, should be using—always adding of course, your own identification, such as:

For the best in radio today—
For the best in television tomorrow—
JONES RADIO AND TELEVISION
COMPANY

Identify yourself with television now. Like bread cast upon the waters, it will come back to you when the war is over in the form of television sales and profits!

Thus, your advertising job, now, is merely to plant the television idea in the minds of your customers and prospects. Cause them to think of you in connection with television. That's all you can do until the sets are on your floor, ready to sell.



And bring your card file up-to-date. See that your sales campaign list contains as much information as to condition of radio sets, interest in new consoles, etc., as you may be able to secure.

Before leaving this subject of television newspaper advertising, don't forget that your television manufacturer will be of great assistance to you in carrying out your advertising campaign, especially after you are actually selling television receivers.

He will supply you with sample newspaper ads and mats, to which you merely need to add your own name and address. To those who have never used this type of advertising, let us say that it has been proven successful through many years of actual experience.

The ads are prepared by expert advertising men. Their sales messages are persuasively written and carry a powerful sales wallop. Usually, they are attractively laid out, to attract the reader's eye as soon as he reaches the page on which the ad appears.

In this way, you buy the services of high-priced advertising men whose talents are beyond the reach of the small retailer. And what's more important, the manufacturer himself pays part of the cost of the newspaper space. Without a doubt, your manufacturer's cooperative advertising plans should form a definite part of your television sales campaign.

Supplementing your newspaper campaign is the use of direct-mail. During the preliminary period, no special direct-mail solicitations need be planned for television. But take advantage of your regular mailings to include a word about television, and whenever you send a bill to a customer, remind him about television.

One very successful dealer has adopted the idea of writing personal letters, not only to his customers, but also to his leading prospects, especially those who are prominent locally in some way. The letters are, of course, printed, but they resemble typewriting and include a personal salutation. Most of the letters concern the dealer's present business, but he never forgets to include a paragraph or two about television. And occasionally, he devotes an entire letter to television, explaining its wonders, the types of programs that will be available, and the world-wide events it will bring in sound and picture into the home.

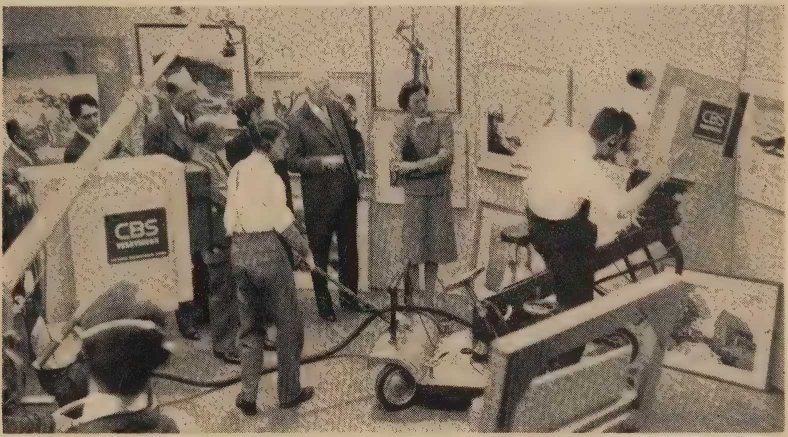
For your radio theater, or group demonstration, plan to invite as many people from as many groups in your community as you can comfortably take care of.

Later on, you will have more concrete things to say in your direct-mail campaigns. Another dealer we know plans to devote part of his direct-mail budget to written invitations to selected customers and prospects to attend television demonstrations in the television theater he plans for his store.

This dealer already is working on his television invitation mailing list. When television hits his territory, he will be all set to go. Whenever he gets the name and address of a likely prospect, he adds it to his mailing list.

He plans to have tickets printed in the form of regular theater tickets, just as are printed for Broadway plays. These will provide for ''admitting one'' to his "Television Theater" at such-and-such an address at such-and-such a time. "Admission Free." He doesn't plan to call it a television "demonstration." He plans to invite them to see "The World at Your Fingertips." "Come and learn how you can see the world without leaving your living room."

A variation of this idea will be to solicit your entire mailing list, asking them whether they would like to attend your television theater, and if so, to write in for free tickets for any time at their convenience. Tell them when performances will be held and that admission will be by ticket only. This method is likely to produce prospects who are actually interested in buying.



You have on your sales list, some art lovers, unquestionably. Show them how close-ups of new paintings have already been successfully televised.

But we warn you, very few invitations will be turned down. Everyone will want to see television. So, stagger your invitations in such a way that you will not overcrowd your theater at any one performance.

Now let's give a thought to the frequency of your mailings. To send out one or two mailings and expect immediate and 100% response is expecting much too much. Probably you will get a large response from your invitation mailings, but you should supplement those mailings with a regularly-planned mail campaign. Most dealers consider one mailing per month about right.

Remember, it is the cumulative effect of advertising . . . particularly direct-mail advertising although it applies equally as well to newspaper advertising—that is the most effective.

Experience has shown that the first two or three or four times a prospect reads your mailing piece he pays it very little attention. It doesn't sink in. It is only after a number of mailings that you begin to make a dent in his consciousness. Direct-mail is a form of reminder advertising. Remind him about your place of business often enough and he will gradually come to an appreciation of the fact that you are in business under such-and-such a name at such-and-such an address.

And that is the main thing you are after in your mail campaign—to keep reminding him about you until he gets you firmly established in his mind. So, one or two mailings and then dropping it is merely throwing money away. If you have money to throw away, all right. But if you want your direct-mail money to pay good returns, keep it up regularly.

Let us remind you, too, that your manufacturer will have a well-planned direct-mail campaign available for you on a cooperative basis. In this form of direct-mail, all you need do is supply your manufacturer with your mailing list. He will provide the mailing pieces and address them at a cost to you far below what you could prepare them for yourself.

DON LEE
TELEVISION
SYSTEM

And the cooking school which teaches "in a salad for men, always let a guy see what he's eating." Teaches really how to get your man through his stomach.

So—in addition to your own mailings that will invite your customers and prospects to television demonstrations in your store, plan to take full advantage of your manufacturer's direct-mail program. It is a worthwhile activity and priced so that even the smallest dealer can afford it.

Television, probably more than any other item of merchandise you will sell, lends itself to "stunt" exploitation. Now, don't get the idea that we mean you should go hog-wild and drive a team of six white horses up and down Main Street pulling a float on which a bevy of beautiful blondes in bathing-suits are acting in front of a television camera. Of course, you can do it if you feel like it, but that isn't quite what we mean by "stunts."

By stunts, we mean such things as this:

Several manufacturers have films available that tell the public all about television. You can borrow such films by arrangement with your manufacturer's representative, or by writing to the home office.

When you are sure the film will be available, arrange to show it not only to invited audiences at your store, but also to schools, clubs and other local organizations.

And, when you have television sets available, don't miss out on a single opportunity to make public demonstrations. For example, the social organizations of your local churches are always looking for some form of entertainment at their meetings. Your television demonstration will be a natural for such groups.

Examine thoroughly the possibilities in your locality for such demonstrations. Schools and colleges will be interested in the educational aspects of television. Watch the advance notices of television programs and try to arrange a demonstration at that time before a group that will be particularly interested in that program.

Programs dealing with cooking, household economics and kindred subjects may be used as opportunities to demonstrate television before women's clubs, Parent-Teachers' Associations and other groups of women.

Sports events, talks by men of national importance, outstanding news events, will interest business men's luncheon clubs and other men's groups.

It is more than probable that such demonstrations will not only result in many actual sales on the spot and the development of hundreds of hot prospects, but you will undoubtedly find that many groups will want to make television a regular part of their meetings. Either the organization will buy a set for itself, or arrange with you, for a suitable fee, to provide a television set for many, if not all, of their meetings. This rental idea can be developed into a profitable sideline for you.

Don't overlook, either, the fact that television inevitably draws crowds like the proverbial magnet. In territories where television is available, and a set is on public display and working, you will always find a crowd around it. Take advantage of this ability of television to draw crowds, by exhibiting it wherever crowds are available.

A booth at the county fair is not such an outlandish idea as the suggestion of it may cause you to suppose. It may seem strange to think of yourself as an exhibitor at the fair, after so many years, probably, as a mere onlooker. But consider it for a moment. The crowds are in a holiday mood. They are on a buying spree. They have plenty of time to stop, look and listen. And they are on the lookout for new and unusual things. Television, for many years, will be all of that.

Your investment in a booth at the county fair may well prove one of your most profitable investments. Don't dismiss the idea without giving it considerable thought.

The same thing holds true, to a lesser degree, of the bazaars frequently held by your local churches and charitable organizations. Take a booth and demonstrate television. It's ten chances to one it will prove the high spot of interest in the entire bazaar, and give you plenty of names and addresses to go to work on.

Another stunt to keep in mind when you have sets to sell is the prize contest idea. This is nothing new, of course, and has demonstrated its value many times over as a publicity and good will builder.

Briefly, its essential steps are these: first, decide on the main theme of your contest; that is, for what reason will you offer prizes. As you want to promote the idea of television, a logical theme would be: "What Television Means to Me."

Then, what class of people do you want as contestants? Well, children, of grammar and high school age, have usually been found to take the most interest in such contests. What's more, get students interested, and you automatically reach the parents, also. They are bound to help their young hopeful win first prize.

Next, decide how you want the contest to be judged. The writing of letters, say, of one hundred words each, is a fair basis for judging. So, you would plan to offer prizes for the best letters of 100 words or less, on the subject of "What Television Means to Me," to be written by school students.

Then, select a number of impartial judges to read the letters and award the prizes. On your board of judges, seek to appoint such people as school teachers and public officials . . . the principal of a local school, and the Mayor of the town, and a third person equally well-known, would make a board of judges in which the contestants would have full confidence.

Next, plan to advertise the contest in your newspapers, and enlist the aid of the editor in giving it publicity stories. Set a closing date for the receipt of letters, and don't fail to state that employees of your organization are barred from entering the contest.

Now, about the prizes you will offer. Naturally, as your main objective is to stir up interest in television, a television receiver as first prize will be an ideal incentive for contestants. Small cash prizes for second and third place should be offered. Or, if you prefer, merchandise of lower value than a television receiver may also be offered for the secondary prizes.

Undoubtedly, other contest ideas will present themselves to you. Don't neglect this contest suggestion. It's a good one. And there is no better way to punch home to your fellow townspeople that television is going to mean a lot to every man, woman and child in the families which have television receivers in their homes.

Now let's have a little heart-to-heart talk about your whole television selling campaign. Let's see if we can't get a sort of a bird's-eye-view of it in its entirety. Let's consider all of the various activities that should be included. Some of them have been covered in this chapter and in previous chapters, and others will be covered in later chapters. But let's put them all together here, in one place, and see if we can't have a sort of check list for ready reference . . . something that you can use as a guidepost.

(1) *Identify yourself with television.*

Include television in the name of your place of business. Learn all you can about television. Talk to your customers and prospects about it. Include mention of it in your window and store displays, and in your current advertising. Write newspaper articles about it.

(2) *Start your television priority plan.*

Solicit present customers to sign up for first choice on a television receiver when they are available.

(3) *Prepare television prospect lists.*

Get together a list of the names and addresses of everyone in town who will be a logical prospect for television.

(4) *Plan your "television theater."*

Plan where you are going to make group demonstrations in your store. Decide how you are going to arrange it and furnish it.

(5) *Set a reasonable television sales quota.*

Decide how many television sets you can reasonably expect to sell the first year, and the anticipated dollar-volume. Don't set it impossibly high, but make it ambitious enough to keep you humping.

(6) *Newspaper advertising.*

Decide how much you can afford to spend on television. Plan a regular campaign in your local newspapers, and take advantage of manufacturers' cooperative plans.

(7) *Direct mail.*

Plan to invite selected groups of prospects to television demonstrations in your television theater. Plan a regular monthly mailing campaign on television, and use your manufacturer's direct-mail program.

(8) *Stunts.*

Devise a number of "stunts" that you can use to promote television in your town.

(9) *Demonstrations.*

Take advantage of every opportunity to demonstrate television in local schools and institutions, and arrange demonstrations at local clubs. Take a booth in the county fair and at local church bazaars.

(10) *Decide about financing.*

See your banker. Sell him on television and arrange for the additional financing television time-payment sales will require.

(11) *Decide about trade-ins.*

You will need some kind of a trade-in policy. Plan now, how you are going to handle them.

(12) *Plan store and window displays.*

Decide now how you will display television on your floor and in your windows. Put a set in the window, if you have one, and let it "perc."

(13) *Gear your sales force for television.*

Even if your "sales force" consists of only one man, begin training them—or him—now, to sell television . . . what to do, what to say, how to handle customers, how to demonstrate, how to close sales.

(14) *Outline television sales talks.*

Start now to work out convincing television sales talks. Practice them until you can talk about television like an expert.

(15) *Prepare for television service.*

Plan how you will handle television service. Make sure your service men know all about television.

(16) *Reach out for the farm market.*

Plan how you will sell television to farmers. It will mean more to them, probably, than to their city cousins.

(17) *Are you ready to roll?*

Keep in touch with manufacturers and their television plans. Watch for announcements of local television broadcasting stations. Get all your plans in order and be ready to roll when television comes to town.

Clearly, television presents vast opportunities. Never again in your lifetime will you have such a glorious chance to profit by the added sales a new industry always makes possible.

If you are ready for television, it will carry you to new heights of prosperity.

“Trade-ups” and “Trade-ins”

Making the customer pay "more than he intended" is a ticklish sales technique, but it can be done gracefully and profitably if you use sincerity, honesty and reason in your selling presentations. Hints on taking in old sets to insure selling new ones

The smart television retailer would much rather make a “trade-up” sale than he would a “trade-in” sale. He is generally able to make more money selling a customer a higher priced set than the customer intended to buy. Also, it is obvious, that if he has to make a trade-in allowance, his margin of profit may well be reduced.

What the trade-in situation will be in postwar television no one knows accurately, but since there are going to be so very many obsolete radio receivers, and many obsolete television receivers, it is good business to look into the whole trade-in situation as it may affect you.

Before going into the trade-in problems, let us take a look at the trade-up angle since it actually involves an intangible but vitally important asset of your business—good will.

Of all the selling techniques, trading a customer “up” requires the use of “kid gloves.”

Making a customer spend more money than he intended to do when he came in your store can evolve into a reprehensible, “good-will-buster,” or a pleasant, profitable transaction for both dealer and customer.

It all depends upon how it is carried out.

If your customer feels that the only reason you want to sell him a higher priced television set is because you want to get more profit out of him he has every right to be antagonistic about it.

If your customer feels that you are sincere, and that it is unquestionably to his benefit to buy a higher priced set, he will be happy about the whole affair, and he will not object to the extra profit you will make.

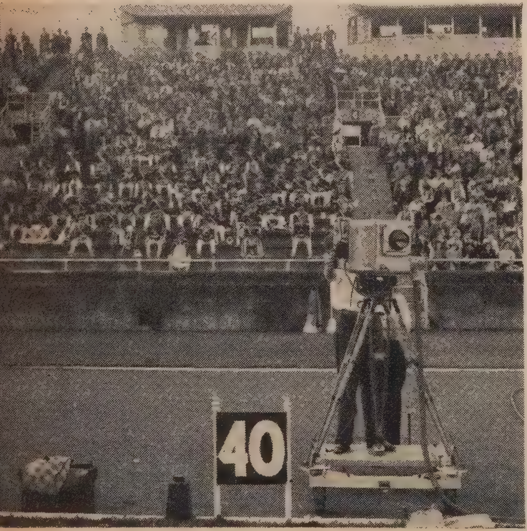
That makes sense.

Unless you are able to convince yourself and your customer that a higher-priced article is better suited to his needs, he'll not only believe that your motives are purely mercenary, but he may often be skeptical about the merchandise itself. He may feel that the article is one you want to "palm off" on him because there's something wrong with it, or because it's not a fast-seller. If you push over a stepped-up sale without employing tact, honesty and consideration you are deliberately killing "repeat" business—which is the kind of business which governs the length of time you'll be able to sell the people of your community.

Are there more factory workers in your town with money to spend? If so, see that they spend it on a television set. Make a list of prospects and send them notices of your store's demonstration facilities and other promotion pieces.

Long ago a famous philosopher said, "Know thyself," and this bit of advice holds true in selling today. If you are anxious to sell higher priced television sets in an ethical fashion, do these two things:

1. "Know thyself." Know how you feel about the product. If you don't think you can sell yourself on it, don't buy it in the first place. Know how your approach to the customer is going to react before you employ it.
2. Know your product. Know it so thoroughly that you'll be able to sell it up on its merits—not on its higher price.



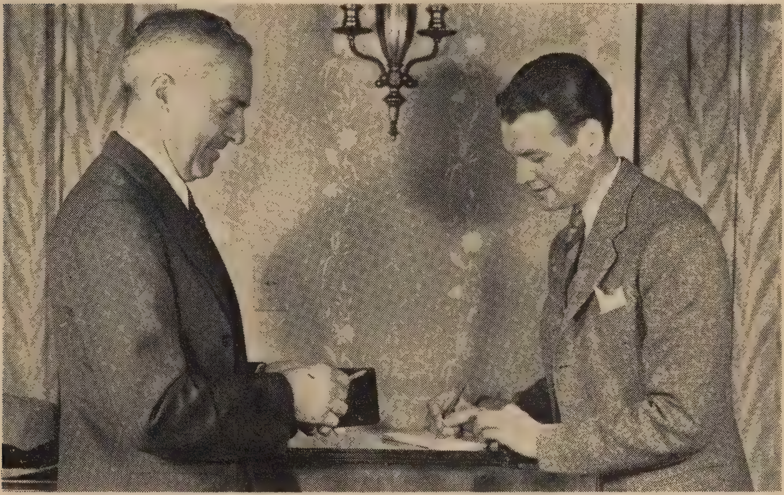
High-pressure methods, predicated only upon getting more money from the customer often kick back disagreeably to the dealer in more ways than one. The more objectionable methods a dealer uses in his town the more his competitors will complain to their customers about him. The merchant

For the football fan, interest him in his "forty-yard seat—by the fireside!" Tell him of the wonderful afternoons he can spend watching the latest games all over the country.

employing highly ethical selling tactics often impresses his competitors so favorably that they will not only hesitate to "knock" him to a customer, but will often praise him.

Here are some necessary methods to use in television "selling up:"

1. If you advertise a "leader" and a customer comes in and asks about it, don't beat around the bush. Show the item, and praise it immediately. If you start "hedging" the customer will be suspicious.
2. In attempting to sell a higher priced television receiver, never "beat down" the value of the lower priced set. The lower priced merchandise belongs to you, and it is of your selection.



If you can, sign him up now. If the customer has an old radio set, perhaps you can allow him a few dollars towards a television receiver. Try to get him to set aside a small monthly payment for his future set.

Obviously, if you belittle a cheaper unit of the same make as the higher priced one, you're going to sow the seeds of doubt in the customer's mind about the entire line.

3. Sell "up" only on the advantage the more expensive set has for the customer. He's not interested in your end of the deal.
4. Know your product well enough to describe and compare these things between the various priced models:
   Performance.
   Styling.
   Size and clarity of image.
   Power as it affects distant reception possibilities.
   Anticipated life of the equipment, where difference in quality of components exists.

Deal with the things the customer can see and hear about the receiver. Demonstrate it capably. Sell "up" on sensible and easily understood facts about the features. Reiterate—if you believe it yourself—that your lowest priced television receiver is just as good in every respect as any other the purchaser can buy elsewhere. Dramatize your sales talk, but temper it with sincerity and common sense. Above all else, never allow yourself to scoff at the customer's objections to paying more money, no matter how ridiculous they may seem. Use decency and adroitness in trying to set him right—certainly never loud arguments or statements that the customer is not qualified to speak intelligently about the set—and that you are.

For an artist, tell him of one portrait painter who made a practice of entertaining the people he painted, with television programs to relieve the tedium of long sittings.

It is just as futile to try and convince some people against their will as it is for you to undertake to change their religious or political beliefs. In attempting to force your opinions on the great majority of folk, you only succeed in antagonizing them, and in making them feel all the more that they are right and you are wrong.

"Trading-up" is achieved, as far as the dealer is concerned, with but one word, and that word is "yes."

Just a simple little word like that—but the job is to get the customer to say "yes," and you can often accomplish this by saying "yes" to the customer yourself. Say "yes" early and often in your selling approach. Half the battle of a sale is to agree with the customer—the other half is to have him agree with you. When this point is reached in a sale, the sale is consummated, and the amount of the sale is governed only by the price the customer is able to afford.

Here are some "horrible" examples wherein sales were actually lost by making the customer feel ridiculous in trying to sell him "up:"

An insurance salesman was endeavoring to sell an important business man a "stepped-up" policy. The prospective customer was sold on all except one feature in the policy. He said: "I think that clause is unfair and objectionable, I feel that it could adversely affect the protection offered in some of the other clauses."

The salesman thoughtlessly replied: "That's only because you don't understand insurance, Mr. Jones." This statement immediately antagonized the business man. Made him feel small—ignorant.

Your customer will be interested in this new kind of "television newsreel." He will be glad to follow the world-shaking events of the future with the large wall maps the television studios are providing for their news commentators.

The salesman had at his disposal a potent argument, which if presented in this fashion, would have clinched the deal.

He could have said: "I agree with you, Mr. Jones. I agree that it is an unusual clause, but it is a standard clause in all policies of this kind issued in this state."

The salesman could have given Mr. Jones an argument . . . a genuine sales argument, and could have agreed with him at the same time. He could have made Mr. Jones feel important, and could make him see the true situation in one fell swoop.

Shortly after we entered the present war a large dealer organization found it had very few small radios on hand, but lots of large, expensive ones. The sales manager called a meeting, and told his salesmen to do all in their power to sell the customers "up"—get them to buy the expensive sets.

One of the salesmen relates this experience, wherein he lost the sale of the highest priced set on the showroom floor.

It was a Saturday afternoon, and business had been slow all day. A man, needing a shave, and dressed in lounging clothes, came in and expressed the desire to purchase a radio. "Just a small one, I guess," said the customer, who could have been almost any sort of person in almost any sort of financial circumstances, since his appearance gave no clue.

The salesman used every sort of persuasion to get the customer to look at a beautiful radio-phonograph combination—a handsome piece of furniture, and was making out fairly well in his sales presentation.

"It's too much a piece of furniture to suit me," objected the customer, which should have been a cue for the salesman to drop this end of the argument, agree that it was a pretty big piece, and go back, perhaps to the performance superiority.

TELEVISION
SYSTEM

Television presented the Los Angeles Soap Box Derby in the Baldwin Hills with contestants in engineless coasters.

Instead, the salesman said: "Think of its worth from the angle of 'pride of ownership.' Everyone coming into your living room will admire it."

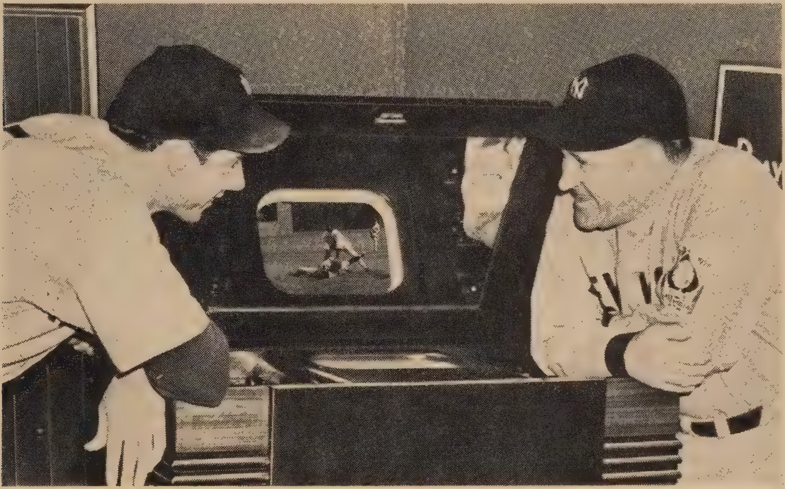
The old 'pride of ownership' line the salesman had learned in the school of yesterday, which, while it still is a potent factor today, should never be suggested to the customer, since it places him in the category of one who tries to keep up with the Joneses.

What about the customer in the little episode above? Well, he turned out to be a well-known artist, who disliked conventional things—a bohemian of the first water, a cynic and a scoffer at the school of thought believing in uniformity and rote in furnishing homes and in methods of living. This artist, who was very well off, did not buy the set, and the salesman lost the sale. Trading up is good business if properly carried out.

Before we go into "trade-in" aspects as they relate to the sale of television receivers, let us cite a "horrible" example as seen in an actual case of where a dealer lost a sale after he had made it, and a customer in a "trade-in" deal and in which we learn the wisdom of this advice—never ridicule a customer's belongings.

In common with many another dealer in the pre-war period, this merchant advertised attractive trade-in allowances on "your old radio—regardless of its condition."

An elderly man called several times at this dealer's store, and finally signed an order for an expensive console, which the dealer was very glad to sell. He made the man a $15 allowance "sight unseen" on the elderly man's radio, and the latter agreed to bring it to the store himself.



Many organizations are helping you in your promotion of television. Here is a motion picture on baseball, shown to baseball players in the dugout at Yankee Stadium. This was promoted by the American League Professional Base Ball Clubs.

The next day, when the customer entered the store, the dealer was talking to a couple of customers, and when he saw the ancient "converted" receiver—1928 vintage—the elderly man had in his arms, he, the dealer burst into a fit of uncontrollable laughter. "Take that bunch of junk back to Noah's Ark, Mr. Smith!," he cried jokingly.

The customer's reaction was what the dealer could have anticipated it would be. He was terribly hurt. He had brought in the old set so that he could brag about it to the dealer—tell him how long and faithfully it had operated—and perhaps hear the dealer agree that the old radio had done a good job. The customer, Mr. Smith, cancelled the order he had already signed, and the dealer lost the business.

Don't ridicule equipment offered as a trade-in.

The automobile salesman who goes out to the curb—looks at your car as a prospective trade-in, and then wisecracks: "You don't expect me to offer you anything for that junk heap, do you?" overlooks the fact that such a remark may be a direct jibe at the pleasant moments you and your family may have had with the car, and it wouldn't cost the salesman anything to say, for example, "well, of course the car's age prohibits a very large allowance, but you've certainly kept it in good condition," or something of that sort.

And so it will be when we have those television sets, and may well be confronted with trade-ins. Praise the old junk you have to take in, even if you do so with your tongue in your cheek. You're buying that junk yourself. You're going to own it, so why not make yourself feel better about the whole transaction even by simulating a feeling that you're glad to get the trade-in.

Just what the "trade-in" future holds for us is what we do not know at this time, but, since it is quite obvious that we are going to take a certain number of sets in trade, and we are going to avoid taking them in in a good many cases, it is well to discuss some of the points. As an experienced merchant, you undoubtedly know already that a stock of old and obsolete radio sets taken in trade can tie up much of your profits . . . can nullify some of the great benefits television selling will bring you.

It's doubtful if an extreme policy one way or the other can be carried out. To say, arbitrarily, that you will not make a trade-in deal would be kicking a good many profit-making opportunities in the teeth . . . because a shrewd buyer can take in a set at a price that will make him a nice profit on a re-sale.

At the same time, as we said before, too many trade-ins, particularly of obsolete models, will prevent you from cashing in to the fullest possible extent on your television profits.

The exercise of good judgment is the only possible policy. Take a trade-in if you are not over-stocked, if you can get it at the right price, and if it is marketable. And the "right price" should never be more than 15 percent of the new sale.

Dodge it if it has no re-sale value. There are many sales arguments you can use to induce such a customer to keep his old receiver. You probably know them as well as we do—keep it for some other room in the house—give it to the children—give it to a charitable organization—you can get a better price by selling it yourself, and so forth.

The main point to remember, is that television will not automatically and immediately make all radio sets obsolete. Far from it. For a period of years after television gets going there will still be plenty of radio programs broadcast without benefit of television, just as they are today. So there will continue to be a usage and a market for present-day radio receivers. Consider and sell television as supplementing, not supplanting, present radio programs and radio receivers.

Clearly, there are many points to decide, many plans to be made, many activities you can start on, well before television comes to your town.

Get as many plans worked out now, as you can, so that you'll be all ready to start selling as soon as production of television receivers is resumed and television programs are broadcast on a nationwide scale.

Perhaps, if you are now selling rebuilt radio receivers, or even phonographs, you'll be able to sell them now under some sort of plan whereby the customer can get an agreed upon allowance for the unit to be applied against the purchase of a television set when available. In this way you may be able to "sew up" a lot of future business.

All in all, we see that a study of the "trade-up" proposition is indicated as good business, and that "trade-ins" are inducements to make people buy more goods. But both must be handled carefully and intelligently.

Hiring, Paying, Training Sales Force

Simple plans for rating. How to prevent money worries from hampering salesmen's efforts through selected payment methods. Television selling requires modern sales techniques be taught. Brainwork and leg-work combinations good for sales.

A television sales force must have three things in order to succeed.

It must *have something to sell.*

It must be *prepared for action.*

It must be *compensated for its work.*

Breaking what could be a very complicated subject into but *three* elements and treating upon them separately, we are able to see a clear picture of the sales personnel problems as they will affect television selling.

A sales force, to be effective, must be prepared for action, and must not be allowed to pursue aimless, hit-and-miss methods. An efficient, well-informed selling organization, backed by skilled maintenance men will insure the merchant of two things:

1. Television sets *will be sold.*
2. Television sets *will stay sold.*

As other sections of this book deal with maintenance problems, we will not discuss them further, but will delve right into the methods of preparing the sales force.

The efficient salesperson's groundwork must include some knowledge of how television operates and all about what television can do for the customer. The actual knowledge of how television works does not need to be known to any great extent by the salesman, but he must know enough to be able to answer the few simple questions the layman is likely to ask him. Here are some questions the prospective customer—a layman—might ask, that the salesman should be able to answer:

"Can the television set be hooked up on my present aerial?"

"Does it cost much to operate a television receiver?"

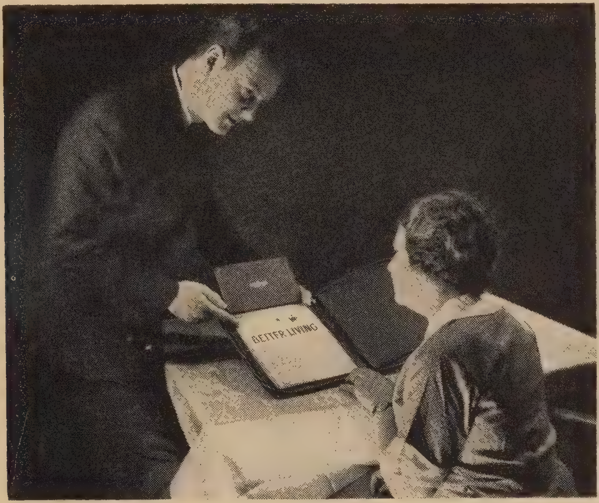
"Is the maintenance cost high—such as necessity for frequent tube replacements and so forth?"

"Does static ever cause interference as it sometimes does in my radio?"

"Will I be able to bring in distant stations on this set?"

"So-and-so's television set, selling at the same price, has 30 tubes. How many has this one?"

A ready and intelligent answer to questions such as the above ones, will favorably impress the customer. He will believe that the salesman "knows what he's talking about"—and that's a big step in the right direction on the part of the seller. For some answers to customers' questions, see chapter entitled "Questions and Answers about Television" on page 151.



See that your salesmen are equipped with all the necessary promotional and sales particulars. Help them to show how television can raise the standard of living.

But when it comes to what the television receiver will do for the prospective purchaser in the way of entertainment and enlightenment, the salesman who knows the most answers is going to get the most sales.

Probably the best first step to take in training your sales force is to insist that they learn to dramatize their sales presentations in keeping with the highly dramatic instrument they're selling, and to make sure that they are thoroughly familiar with the television programs available for reception in your territory.

The people you choose to sell for you—men and women—must be versatile. They must be adaptable enough to absorb techniques required in selling diverse prospects including housewives, executives, factory workers, white-collar workers, innkeepers, school principals, physicians, dentists, government officials, clergymen, invalids, students, morticians, bookmakers and so on down the line.

They—your salespeople—must be trained for a special job in television selling, and therefore only the most promising individuals should be engaged. Since it is necessary to first have a sales force in order to be able to prepare it for action, a few tips on "salesmen rating"—greatly simplified and de-bunked—is presented as a readily workable plan.

Following this suggested technique, it is only necessary to do two things:

1. Rate the applicant at time you interview him, and if possible engage him upon a trial basis, the terms of which you're sure he understands clearly.

Hold sales meetings and discuss the type of resistance which each man has encountered. Get suggestions from your men for overcoming this resistance. Get their suggestions as to how to sell television sets.

2. Re-rate him at the end of the trial period. See how he stacks up, and make your own decision. Use headings in form as basis for your questions to applicant, which will govern the percentages you first award, and salesman's performance in action as basis for the final percentages. On the back of the form the man's name, age, address, references, etc., should appear.

If you make up and use a rating chart for your television salesmen, you must be willing to accept the fact that it will be far from infallible—and you must be willing to abridge the ratings you make from time to time.

Since it is impossible for the greatest minds in medicine and science to always agree upon a diagnosis of a case of alleged insanity, it certainly isn't going to be possible for an employer to successfully psychoanalyze a prospective employee. You will find as many mental quirks in salesmen as you will find in anyone else. People will often react differently from the way any study of them had lead even the most learned psychologist to believe they would.

TELEVISION SALESMAN RATING
(Use 100% as a basis for each division)

At time of interview	Percent	End of trial period	Percent gain or loss	Remarks
Health				
Appearance				
Personality—speech				
Imagination				
Apparent versatility (fill in from references)				
Industriousness (this data from references)				
Loyalty (source—references)				
Honesty (references)				
Applicant's homelife, atmosphere (pleasant)				
Apparent cheerful disposition				
Degree of tolerance (racial—religious, etc., based on skilfully asked questions)				
Apparent selling ability				
Diplomacy—tact				

Following are some actual "cases" of salesmen behaviorism observed in the appliance selling field.

Salesman A failed dismally when he tried to put together a simple jig-saw puzzle used as a basis for "psychologically" rating prisoners in a penal institution, but Salesman A could sell any Eskimo a room cooler during an Arctic blizzard.

Salesman B could never learn figures. He had difficulty doing ordinary long-division. However, he brought in more cash contracts than the other salesmen, and when pinned down admitted that when confronted with figuring interest and breaking down installment payment amounts, he put the pressure on the customer for cash payment, so he, the salesman, could escape the figuring he dreaded so. If his employer had known that Salesman B couldn't do simple figuring, would he have hired him?

Give demonstrations for your sales force as well as your customers, so that any questions may be answered as to operation, technical problems, etc.

The sales manager felt he'd made a grave mistake in hiring Salesman C, since the latter had all the earmarks of being a "weak sister," not possessing enough aggressiveness, yet Salesman C proved his worth by bringing in large unit sales from above-average customers, who resented the "pressure" put on them by competing salesmen.

Salesman D was hired reluctantly by the dealer. D admitted that he was a "world-beater" and a "super-salesman," and the dealer was afraid that this fellow's ultra-aggressiveness would be obnoxious to the prospective customers. But Salesman D, following the lines of least resistance, devoted his efforts to those prospects who liked to be high-pressured—who had to be "worked on" in order to be sold—and did a good job.

Many variations of the suggested plan for rating salesman may be made by the dealer. The sole purpose of employing some sort of graph is to have a means of comparing your first impressions of the salesperson with his actual performance during the trial period, and it is a particularly valuable means of checking for organizations employing a good-sized force.

Use of a rating chart prevents, to a great extent, disappointments in hiring both from the standpoint of the employer and the employee. A comparative rating, such as outlined operates upon the premise that the complex human being has more than one set of manners, and it is impossible, therefore, to judge a man accurately—even through the most elaborate application blank—when you first interview him.

Be sure that your service department is capable of repairing television receivers and if you must have outside assistance, be sure to get it.

Salesmen must also be paid. We may like to feel that a salesman's first interest is in your business. Since self-preservation is one of the first laws of nature, we can readily see that any person's first interest is in himself and in his family. This is why salesman compensation, upon a fair basis, is vitally important if you want to get the most out of the man's time.

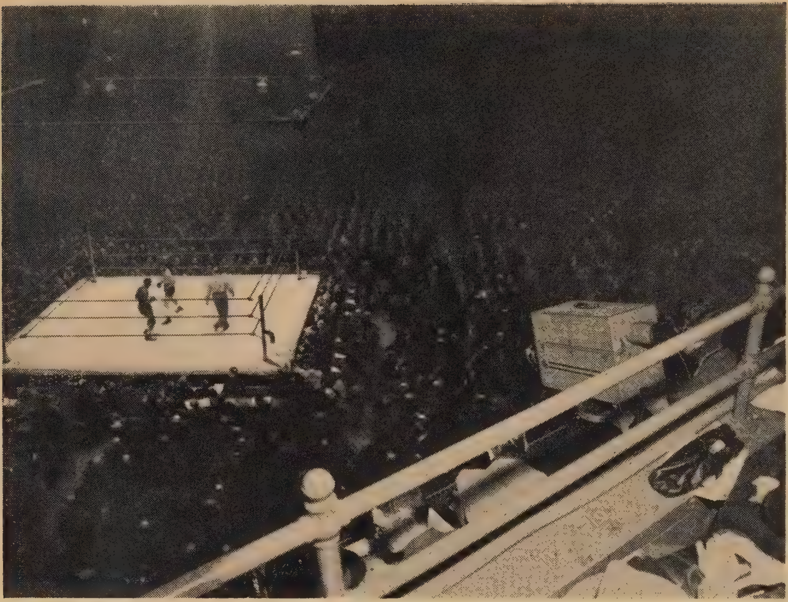
Financial worries cause over-eagerness, followed by despair and failure, on the part of any salesman—even a "world-beater."

Since salesmanship—an intangible profession—is compensated consciously or unconsciously upon the volume of business sold there is no limit to what you are willing to pay your salespeople, no matter how small a business operation you have. The more a salesman sells for you the more you will be glad to pay him.

There are numerous plans to consider in compensating your future salespeople in television. In order to present some of the plans in such fashion that they may be quickly grasped, a chart accompanies this article. The

TELEVISION SALESMEN COMPENSATION CHART

Straight salary (With or without bonus plan)	Salary and commission (With or without bonus plan)	Straight commission (With or without bonus plan) (With or without drawing account)
Best plan for those whose loyalty, efficiency, honesty and industry is of highest order. Necessary where salesperson is called upon to perform tasks extraneous to selling, such as collecting accounts, dressing windows, adjusting customer complaints, answering telephone calls, not connected with his selling duties, etc. Necessary where the makes the salesman has to sell are not fast-sellers and are being "pioneered" by dealer and manufacturer. Straight salary is a potent weapon against rapid sales personnel turn-over. The longer a salesperson stays with you the more customers he knows as friends—the more confidence he will build for you. The person to hire on straight salary *must be as anxious to sell more goods as his employer is.*	Under this plan, as a general rule, the salesmen receives less salary than the "straight salary" man. Rates of commission and amounts of salary depend upon these factors: (*a*) How "hot" is the merchandise the salesman has to sell? (*b*) How many extraneous duties will he be called upon to perform? Same care in choosing individuals to operate under this plan must be exercised as applies to straight salaried persons. This is a very good plan, since it gives the salesman 3 things: 1. Incentive to increase sales. 2. Reasons for loyalty and honesty. 3. Freedom from worry about financial matters.	By and large, this is the least attractive plan from the salesman's point of view, and often from the employer's viewpoint. Straight commission, with a drawing account, the employer is more often able to get and demand good references. Straight commission, with no drawing account, limits the employer's demands upon the salesman's (a) Time. (b) Character and habits. (c) Sales methods as desired by employer. A salesman on straight commission compensation basis must be furnished with three tools: 1. Fast-selling brands. 2. Floor-time and leads. 3. High commission rates, stepped to fit the saleability of the merchandise. Largest personnel turnovers are experienced under this plan. Goods are often "oversold" under this plan, affecting your good will. You cannot fairly demand extraneous services from salesmen. If the salesperson is a "chiseler," he may quit, if on drawing account, and leave you holding the bag.



Tell your salesman to approach men from a man's angle with the sports appeal of television. Show pictures of the big prize fights which have been televised.

Be sure that your sales associates have pleasant, agreeable personalities. And if there is any fault with anyone's approach, tactfully and carefully try to correct it.

dealer may make many adaptations of his own. The chart is designed to form the basis upon which the merchant will be able to work out his own television salesman's compensation problems.

Television is a modern thing, and in order to keep your sales force in the right mental groove to sell it in a modern fashion, a lot of old-fashioned selling bunk must be eliminated.

Don't ask your television sales force to make an impossible number of calls per day. Instead, tell them that the number of sales is much more important than the number of calls, but point out, of course, that a certain amount of "leg-work" must be done.

Don't let your salesmanager, or any person coaching salesmen, feed them a lot of exaggerated selling experiences about imaginary sales sharpshooters and their exploits. Your salespeople will resent being asked to shoot at targets that are out of range of their guns. Also, if the listeners are highly intelligent, they'll secretly ridicule such tales.

Organize a house-to-house canvass to interest the people you may not be able to contact in your store and by telephone. See that the salesman is courteous, pleasant and has enough interesting material to keep the door from being shut upon him.

If you believe in asking your salespeople to perform "mock" selling demonstrations, handle each individual with care, and make every endeavor not to cause embarrassment. Many salesmen act entirely different under such conditions as they do when confronting an actual customer.

Drum into your salesman's head that he must not become involved in discussions with prospective customers involving religion, race or politics. Such discussions on the part of your representatives, be they salesmen or maintenance men, can lead not only to loss of business for you, but may well develop hatred and boycott against you.

Try to get your television salespeople to know themselves, and to develop the best there is within them, and in attempting to do this take into account that Salesman Doakes has one manner he uses with you—one he uses with the customer and one he uses with his family and intimates.

If you have a large sales force, and you are accustomed to having them perform customer account collection duties, it is often wise to shuffle the accounts around so that the salesman does not collect on the accounts he has sold. This is particularly true of delinquent accounts, and often of current ones.

Much of this chapter treats the subject of hiring, paying and training a sales force upon the premise that the dealer intends to have several or more persons, but it is entirely possible to use much of the material herein for even a "one-man" force.

Gone are the days and gone for good—as far as television selling is concerned—is the notion that your sales volume will be governed solely by how many salesmen you are going to employ. Our new selling era, and a product like television with its colorful appeal, will need quality in men—not how many men—but how good they are.

Even the dealer who has no sales help still has to pay himself, and he has to keep on his toes if he is going to succeed in television. He has to map out his selling plans now, and if his selling facilities are going to be limited, it's all the more reason that he should gear himself to get as much business as he can.

So, no matter how many or how few salespeople you plan to employ—hiring, paying and training is important.

Dollars and Sense in Financing

World's largest finance companies preparing now to handle what they believe will be record-breaking sales of home appliances in postwar period. How the alert television dealer can finance his own business and the television purchases of his customers.

While, in order to sell television, it is important and necessary to have merchandise, a store and an organization, the financing of a retail business operation is a problem requiring the utmost attention.

No matter how much you sell, you cannot make profits unless you have an efficient and effective financing structure.

To furnish the reader valuable, new information on the subject, the editors have just completed an up-to-the-minute survey among officials of the nation's largest "finance" companies and banks, in this way assuring exclusive, authentic and brand-new information on what the postwar finance picture looks like.

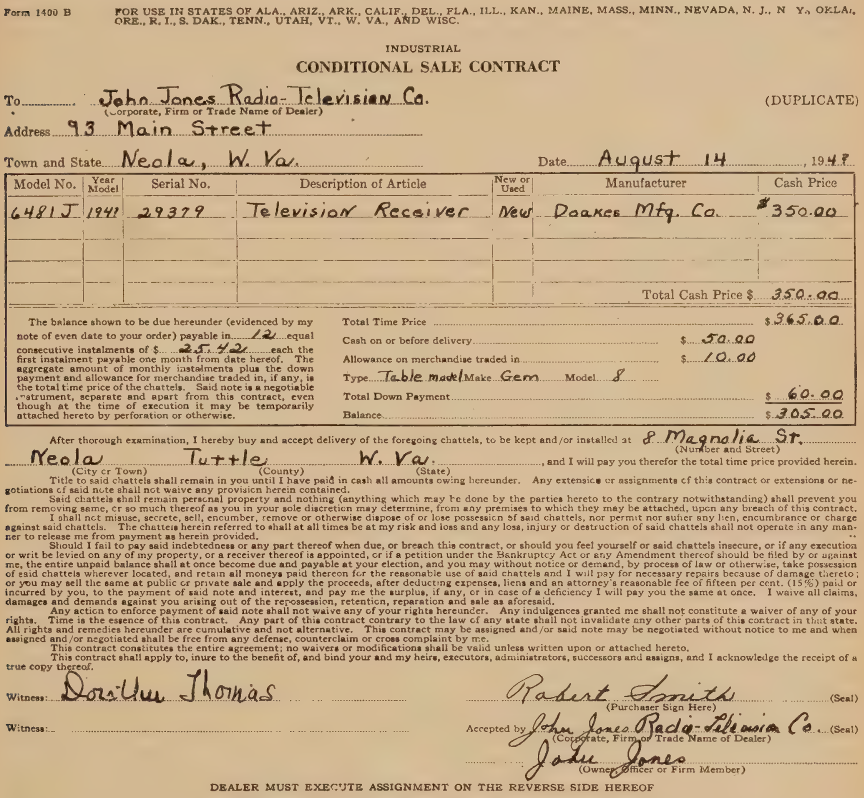
Consider the significance of the following statements:

1. Because television receivers promise to sell for interestingly large sums, financing institutions, including banks, are unanimous in declaring that they are vitally interested in working with dealers in financial matters affecting television sales.

2. Because of the tremendous "hunger for television" on the part of the American public, finance companies are now busily working on new and improved financing plans for the retailer who plans to sell television.

3. Because the best minds in installment financing today believe that, as in the past, between 75 and 80 percent of all postwar purchasers of radios, television and appliances will use installment-buying plans, and since there is a huge pent-up demand, two of the country's largest independent finance companies are increasing their facilities to serve the dealer. Many finance companies will definitely double the number of local offices, and two large companies will have approximately 800 local offices between them when peace comes. (Reasons why finance companies do not believe that war bond and other savings will materially affect installment buying, postwar, will be found later on in this chapter.)

4. A canvass of 250 radio-appliance manufacturers, just concluded, reveals that almost all are planning a 50 to 100 percent increase in postwar production over their pre-war peaks, and television plays an important part in the plans of many. This information was given exclusively to this publication, and since a prominent financial institution made the survey, it has geared itself to offer greater service to radio-appliance dealers, and to music, furniture, department and other stores who are going to sell television and household electrical equipment.



Form 1400 B   FOR USE IN STATES OF ALA., ARIZ., ARK., CALIF., DEL., FLA., ILL., KAN., MAINE, MASS., MINN., NEVADA, N. J., N. Y., OKLA., ORE., R. I., S. DAK., TENN., UTAH, VT., W. VA., AND WISC.

INDUSTRIAL
CONDITIONAL SALE CONTRACT

(DUPLICATE)

To John Jones Radio-Television Co.
(Corporate, Firm or Trade Name of Dealer)
Address 93 Main Street
Town and State Neola, W. Va.
Date August 14, 194[illegible]

Model No.	Year Model	Serial No.	Description of Article	New or Used	Manufacturer	Cash Price
6481J	1941	29379	Television Receiver	New	Doakes Mfg. Co.	$350.00
					Total Cash Price $	350.00

The balance shown to be due hereunder (evidenced by my note of even date to your order) payable in 12 equal consecutive instalments of $ 25.42 each the first instalment payable one month from date hereof. The aggregate amount of monthly instalments plus the down payment and allowance for merchandise traded in, if any, is the total time price of the chattels. Said note is a negotiable instrument, separate and apart from this contract, even though at the time of execution it may be temporarily attached hereto by perforation or otherwise.

Total Time Price		$365.00
Cash on or before delivery	$ 50.00	
Allowance on merchandise traded in	$ 10.00	
Type Table model Make Gem Model 8		
Total Down Payment		$ 60.00
Balance		$ 305.00

After thorough examination, I hereby buy and accept delivery of the foregoing chattels, to be kept and/or installed at 8 Magnolia St. (Number and Street) Neola (City or Town) Tuttle (County) W. Va. (State), and I will pay you therefor the total time price provided herein.

Title to said chattels shall remain in you until I have paid in cash all amounts owing hereunder. Any extension or assignments of this contract or extensions or negotiations of said note shall not waive any provision herein contained.

Said chattels shall remain personal property and nothing (anything which may be done by the parties hereto to the contrary notwithstanding) shall prevent you from removing same, or so much thereof as you in your sole discretion may determine, from any premises to which they may be attached, upon any breach of this contract.

I shall not misuse, secrete, sell, encumber, remove or otherwise dispose of or lose possession of said chattels, nor permit nor suffer any lien, encumbrance or charge against said chattels. The chattels herein referred to shall at all times be at my risk and loss and any loss, injury or destruction of said chattels shall not operate in any manner to release me from payment as herein provided.

Should I fail to pay said indebtedness or any part thereof when due, or breach this contract, or should you feel yourself or said chattels insecure, or if any execution or writ be levied on any of my property, or a receiver thereof is appointed, or if a petition under the Bankruptcy Act or any Amendment thereof should be filed by or against me, the entire unpaid balance shall at once become due and payable at your election, and you may without notice or demand, by process of law or otherwise, take possession of said chattels wherever located, and retain all moneys paid thereon for the reasonable use of said chattels and I will pay for necessary repairs because of damage thereto; or you may sell the same at public or private sale and apply the proceeds, after deducting expenses, liens and an attorney's reasonable fee of fifteen per cent. (15%) paid or incurred by you, to the payment of said note and interest, and pay me the surplus, if any, or in case of a deficiency I will pay you the same at once. I waive all claims, damages and demands against you arising out of the repossession, retention, reparation and sale as aforesaid.

Any action to enforce payment of said note shall not waive any of your rights hereunder. Any indulgences granted me shall not constitute a waiver of any of your rights. Time is the essence of this contract. Any part of this contract contrary to the law of any state shall not invalidate any other parts of this contract in that state. All rights and remedies hereunder are cumulative and not alternative. This contract may be assigned and/or said note may be negotiated without notice to me and when assigned and/or negotiated shall be free from any defense, counterclaim or cross complaint by me.

This contract constitutes the entire agreement; no waivers or modifications shall be valid unless written upon or attached hereto.

This contract shall apply to, inure to the benefit of, and bind your and my heirs, executors, administrators, successors and assigns, and I acknowledge the receipt of a true copy thereof.

Witness: Dorothy Thomas   Robert Smith (Seal)
(Purchaser Sign Here)
Witness: Accepted by John Jones Radio-Television Co. (Seal)
(Corporate, Firm or Trade Name of Dealer)
John Jones
(Owner, Officer or Firm Member)

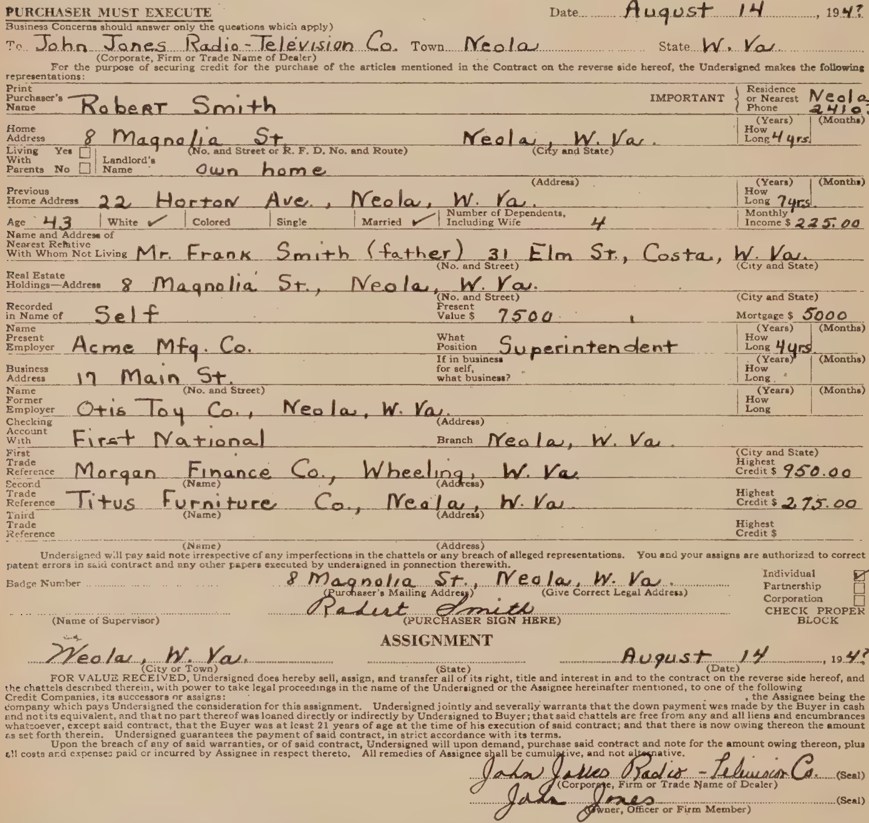
DEALER MUST EXECUTE ASSIGNMENT ON THE REVERSE SIDE HEREOF

The name on the dotted line is what counts in salesmanship! Be sure your customer understands all of the terms and conditions. Don't over-sell or exaggerate your merchandise if you want the sale to "stick."

So much for the plans of the organizations interested in installment financing for dealers. And, now, on to the actual practices of financing within the dealer's organization.

From here on, the reader must remember that at the present time, and as long as the War lasts, there are restricting regulations in effect. Government orders have established minimum down-payments and have shortened the length of time installment buyers may take in making payments, etc.

Since no one knows, or has any means of accurately predicting whether or not these regulations will continue to be imposed postwar, the subject of financing in this article is treated on the premise that the wartime regulations are not in effect. This is done for the purpose of showing what plans finance companies and banks are quite sure to employ, if not prohibited from so doing by existing regulations or perhaps new ones.



PURCHASER MUST EXECUTE Date August 14, 194?

Business Concerns should answer only the questions which apply)

To John Jones Radio-Television Co. Town Neola State W. Va.

(Corporate, Firm or Trade Name of Dealer)

For the purpose of securing credit for the purchase of the articles mentioned in the Contract on the reverse side hereof, the Undersigned makes the following representations:

Print Purchaser's Name Robert Smith

IMPORTANT Residence or Nearest Phone Neola 2410J

Home Address 8 Magnolia St (No. and Street or R. F. D. No. and Route) Neola, W. Va. (City and State) How Long (Years) 4 yrs. (Months)

Living With Parents Yes ☐ No ☐ Landlord's Name own home (Address)

Previous Home Address 22 Horton Ave., Neola, W. Va. How Long (Years) 7 yrs. (Months)

Age 43 | White ✓ | Colored | Single | Married ✓ | Number of Dependents, Including Wife 4 | Monthly Income $ 225.00

Name and Address of Nearest Relative With Whom Not Living Mr. Frank Smith (father) 31 Elm St., (No. and Street) Costa, W. Va. (City and State)

Real Estate Holdings—Address 8 Magnolia St., Neola, W. Va. (No. and Street) (City and State)

Recorded in Name of Self Present Value $ 7500 Mortgage $ 5000

Name Present Employer Acme Mfg. Co. What Position Superintendent How Long (Years) 4 yrs. (Months)

Business Address 17 Main St. (No. and Street) If in business for self, what business? How Long (Years) (Months)

Name Former Employer Otis Toy Co., Neola, W. Va. (Address) How Long (Years) (Months)

Checking Account With First National Branch Neola, W. Va. (City and State)

First Trade Reference Morgan Finance Co., (Name) Wheeling, W. Va. (Address) Highest Credit $ 950.00

Second Trade Reference Titus Furniture Co., (Name) Neola, W. Va. (Address) Highest Credit $ 275.00

Third Trade Reference (Name) (Address) Highest Credit $

Undersigned will pay said note irrespective of any imperfections in the chattels or any breach of alleged representations. You and your assigns are authorized to correct patent errors in said contract and any other papers executed by undersigned in connection therewith.

Badge Number

8 Magnolia St., Neola, W. Va. (Purchaser's Mailing Address) (Give Correct Legal Address)

Individual ☑
Partnership ☐
Corporation ☐
CHECK PROPER BLOCK

(Name of Supervisor) Robert Smith (PURCHASER SIGN HERE)

ASSIGNMENT

Neola, W. Va. (City or Town) (State) August 14 (Date), 194?

FOR VALUE RECEIVED, Undersigned does hereby sell, assign, and transfer all of its right, title and interest in and to the contract on the reverse side hereof, and the chattels described therein, with power to take legal proceedings in the name of the Undersigned or the Assignee hereinafter mentioned, to one of the following Credit Companies, its successors or assigns: , the Assignee being the company which pays Undersigned the consideration for this assignment. Undersigned jointly and severally warrants that the down payment was made by the Buyer in cash and not its equivalent, and that no part thereof was loaned directly or indirectly by Undersigned to Buyer; that said chattels are free from any and all liens and encumbrances whatsoever, except said contract, that the Buyer was at least 21 years of age at the time of his execution of said contract; and that there is now owing thereon the amount as set forth therein. Undersigned guarantees the payment of said contract, in strict accordance with its terms.

Upon the breach of any of said warranties, or of said contract, Undersigned will upon demand, purchase said contract and note for the amount owing thereon, plus all costs and expenses paid or incurred by Assignee in respect thereto. All remedies of Assignee shall be cumulative, and not alternative.

John Jones Radio-Television Co. (Seal)
(Corporate, Firm or Trade Name of Dealer)
John Jones (Seal)
(Owner, Officer or Firm Member)

Don't let your salesmen "edit" the credit information. As a rule it is advisable to have the customer fill out this form himself. Give him plenty of time and the necessary privacy. Answer all questions.

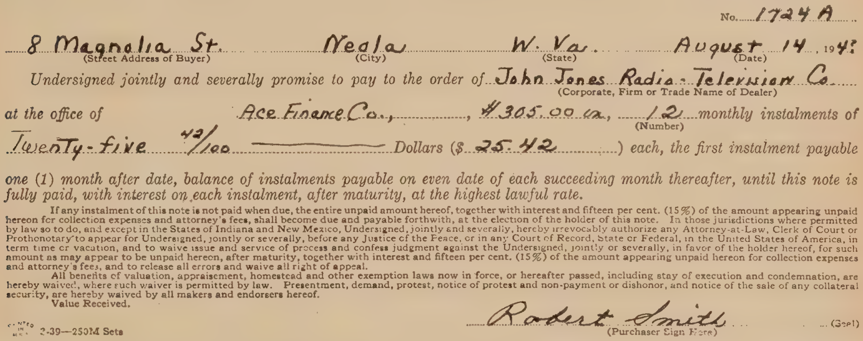
However, there is nothing gloomy in the prospects of operating even under the present regulations. As a matter of fact, purchasers must make substantial down-payments, and must pay up quicker, so that the financing institution and the dealer will "get out from under" their respective liabilities and repossession possibilities sooner.

Also, there are these inexorable "supply and demand" angles to consider:

1. "Attractive" terms, such as "no down-payment—2 years to pay", summer plans, winter "skip-payment" plans, etc., have their greatest

appeal, naturally, when money is hard to get. When the wolf, the sheriff and the mortgage-holder camp on too many doorsteps, the merchant, in order to sell goods must be alert. He must work like the devil to sell. Then "attractive" terms are his most potent weapon, and not a secret one either. But when this postwar period comes, people are going to have lots of nice, crisp folding money to spend.

2. Here's a brand-new slant, too. It is the carefully-weighed prediction of a financing tycoon, who makes a comfortable living lending money for installment buying. He says: "Tell the dealer that during the immediate postwar period, and for a length of time no one can accurately predict, there is going to be a scarcity of radios and appliances for the home, and there's going to be an epidemic of cash-buying, with purchasers bidding against each other for the scarce goods. However, when production of peacetime products really hits its stride, then installment buying will commence, and I believe, will break all records established in the past." This statement, coming from a man who is definitely not concerned with cash buying, has an authentic ring to it, and appears to be an accurate preview of things to come.



No. 1724 A

8 Magnolia St. (Street Address of Buyer) Neola (City) W. Va. (State) August 14 (Date), 194?

Undersigned jointly and severally promise to pay to the order of John Jones Radio-Television Co (Corporate, Firm or Trade Name of Dealer)

at the office of Ace Finance Co., $305.00 ca., 12 (Number) *monthly instalments of*

Twenty-five 42/100 Dollars ($ 25.42) *each, the first instalment payable*

one (1) month after date, balance of instalments payable on even date of each succeeding month thereafter, until this note is fully paid, with interest on each instalment, after maturity, at the highest lawful rate.

If any instalment of this note is not paid when due, the entire unpaid amount hereof, together with interest and fifteen per cent. (15%) of the amount appearing unpaid hereon for collection expenses and attorney's fees, shall become due and payable forthwith, at the election of the holder of this note. In those jurisdictions where permitted by law so to do, and except in the States of Indiana and New Mexico, Undersigned, jointly and severally, hereby irrevocably authorize any Attorney-at-Law, Clerk of Court or Prothonotary to appear for Undersigned, jointly or severally, before any Justice of the Peace, or in any Court of Record, State or Federal, in the United States of America, in term time or vacation, and to waive issue and service of process and confess judgment against the Undersigned, jointly or severally, in favor of the holder hereof, for such amount as may appear to be unpaid hereon, after maturity, together with interest and fifteen per cent. (15%) of the amount appearing unpaid hereon for collection expenses and attorney's fees, and to release all errors and waive all right of appeal.

All benefits of valuation, appraisement, homestead and other exemption laws now in force, or hereafter passed, including stay of execution and condemnation, are hereby waived, where such waiver is permitted by law. Presentment, demand, protest, notice of protest and non-payment or dishonor, and notice of the sale of any collateral security, are hereby waived by all makers and endorsers hereof.

Value Received.

2-39—250M Sets

Robert Smith (Purchaser Sign Here) (Seal)

The negotiable note is part of the deal. It shows the unpaid balance, plus the finance charge, and is divided into equal monthly payments. Memorize the text so you can explain it clearly to the customer.

Many laymen in finance have felt that the huge savings in bonds in the hands of millions of people may preclude the possibility of installment buying on a large scale in the postwar period.

In order to get first-hand information on this subject, we asked two finance company vice-presidents and the vice-president of one of the country's largest banks about what effect they thought these war bond savings would have on future installment buying.

Amazingly enough, these three men have identical views on the subject. They do not believe that in the postwar period, after production peaks are reached, such war bond savings in the hands of the buyer will have any appreciable effect upon installment buying. And they give their reasons as follows:

1. Many people will save their bonds until the bonds mature.

2. The average amount of savings per person, surprisingly enough, is not very large when broken down in relation to earnings.

3. If regulations pertaining to size of down-payments are retained, many buyers will use bonds as down-payments on homes, television sets and other equipment for the home.

Thus far we have probed into the postwar picture of "financing," and have used this word with respect to the dealer to describe the only two phases he is actually interested in, and these two phases are:

1. The dealer must have means of financing his own purchases which he offers then for re-sale.

2. The dealer must have means of financing his customers' purchases.

What means of carrying on the above phases are available to the dealer?

1. The independent finance company.
2. The manufacturer-operated finance company.
3. The local banking institution.
4. FHA plan in collaboration with financial institutions. (Note: be sure to check what articles may be financed under FHA.)

Because there are so many obvious ramifications to any discussion upon the subject of attempting to compare the merits of the various lending agencies, no attempt to treat of this angle is made in this book. Dealer situations vary as to size of operation, financial ability, etc., and each must view the entire scene carefully and make his own choice, predicated upon which lending agency seems the most logical, from all angles, to be his financial mentor.

Here are the things desired and needed in the dealer's financial set-up:

1. The dealer should be able to stock enough merchandise to properly demonstrate and display, without tying up too much of his capital, and with installment payment terms for his merchandise fitted to his financial situation.

2. He should endeavor to secure contracts which permit him to put a television receiver into a customer's home for a reasonable length of time for demonstration purposes, despite the fact that he himself has not yet paid for the set.

3. He should be able to offer the customer the same attractions, such as low down-payments, etc., as his competitor is able to offer.

4. His customer-installment contracts must be intelligently, courteously and promptly administered by the lending agency.

5. He must deal with an agency willing to consult him (the dealer) in payment-delinquency situations, suits for repossession, improper performance claims, etc. In other words, the dealer, knowing more about the customer than anyone else involved, should always be consulted first.

6. The dealer must arrange to secure a contract between the lending

company and the customer which will protect the dealer as much as possible in cases of repossession, etc.

Like everything else in this world, the man with the most money is always able to secure the most favorable credit terms. Some dealers are able to finance themselves and their customers. Others are high enough in credit ratings to make favorable deals with jobbers and with manufacturers, but here's something to think about—with every indication pointing toward increased competition between lending agencies in the postwar period, no dealer is too small financially not to be able to tie in with a financing organization which will take care of his needs in an adequate fashion.

If the dealer has a reasonably good business, and if he's a square-shooter, and not a sharpshooter, the lending organization will do business with him.

Of great interest to the dealer who's going to go to town with television are possible financing features to be offered him by the lending institution and by the lending institution to the dealer's customers.

Before commenting on this, it is necessary to state again that many of the new and old financing features being overhauled at this time by the large finance companies and other agencies, will all be subject to emergency regulations which regulations, as stated previously, may be continued, abridged, enlarged or otherwise altered. And, of course, they may be discontinued.

Finance companies and banks are certainly going to increase their facilities in a big way, so we will deal only with what seems to be in the offing as far as contract features are concerned. It is a definite fact that lending institutions are experiencing a marked trend away from being merely "money-handlers" to becoming combined money-service organizations.

Astute thinking on the part of these lenders has shown them that they must service their accounts, and that they must do everything they can to keep the dealer in business, since the dealer is their source of income.

In the old days the finance companies, broadly speaking, were too often interested in only two things: First, they high-pressured dealers and dealers' customers into borrowing money. Second, if the installment payment wasn't on the line on the exact date, the cracking-down process commenced—but hard.

Fortunately for all concerned, lending institutions went to work on themselves, reformed their methods, and did a surprisingly good job.

Today, they are planning to offer the dealer better-than-ever inducements. Gone are the days when the finance companies offered only money! Everyone now knows they have more money than Hitler has enemies, so they do not attempt to offer financial statements as inducements to do business with them. But they do have other, worthwhile features to offer the dealer, if and when they are able to do so.

New plans include improved "limited recourse" techniques for the dealer, such as sharply reducing his liability in a deal after a customer has made a certain number of payments regularly. And it is rumored that financial tycoons in banks and other institutions are mulling over deals totally without recourse to the dealer.

Improved plans are being worked out whereby customers will be offered monthly cash discounts for prompt payment, showing a considerable saving to the purchaser, and giving the dealer an additional selling tool.

Then there are the old reliable features, which may be reused in their original forms or perhaps embellished and broadened.

Roughly, these are:

"Skip-payment" plans either "winter" or "summer," having to do with first installments falling due at a considerable interval of time from the date of the signing of the contract.

"Farm plans," especially geared to interest farmers.

"Full-recourse" plans, suitable for the dealer who is financially "heavy."

"Demonstrator" and "display" plans of financing the dealer who is unable to put up much money.

"Add-on" plans, under the terms of which customers who have proven themselves good credit risks, may buy additional appliances without down-payments.

These are just a few of the things in the making, and they are all slanted toward two objectives, the first of which is to enable the dealer to finance himself, and second, to enable the dealer to finance his customers.

Before taking a quick look at things to avoid in installment selling, it is interesting to know why people buy "on time." The answer most likely to pop up in our minds is that they do so because they haven't the ready cash. This answer, however, applies to some of your customers only.

Doubtless, more people buy via the spaced-payment plan because they haven't the money, and want to pay out of income. But there are many wealthy folk who buy on time because they feel that this method gives them a club to hold over the dealer's head in case the article purchased fails to function properly.

Don't let your salespeople "edit-the-credit" information on the prospective customer's contract. If your contract is "with recourse," your salesman, in "editing" out some information he considers might prevent the contract from going through, is betting your money that the deleted information is not an indication that the customer won't pay.

Of vital importance to the dealer is the warranty or guarantee, and the verbal claims relating to the article sold.

If you "oversell" an appliance—a television receiver, for instance and make verbal claims that it will do certain things, and perform in a manner which you know is impossible, you're sticking your neck out.

How can you be stuck since there is a clause in the contract signed by the purchaser in which he agrees that the contract and the contract alone is binding upon both parties, and that no other understanding, either written or verbal, figures in the transaction?

Here's what may happen, despite that seemingly iron-clad agreement:

The "oversold" customer finds, for example, that the television set—which the seller told him, over and over, would bring in images from a distant city—fails to do this.

The irate customer calls the dealer and tells the latter that he will not pay the next installment when due, nor any of the others. The dealer reminds the customer that the matter is out of his hands, and that the finance company merely loaned him (the customer) money, and that he, the customer, agreed to pay this money back.

So far, so good. But, suppose the set "bounces" back to the dealer through a repossession action? Then the dealer finds that he may be confronted with a serious loss, to say nothing of losing the good-will of the customer and, importantly, the loss of the good-will of the customer's friends and neighbors.

In addition to this, and prior to the actual repossessing, the lending agency justly makes demands upon the dealer to attempt to satisfy the customer, and this may entail the rendering of a lot of free service in attempting to do the impossible.

The free service you must maintain during guarantee periods is tied right in with your finances. Rendering quick, efficient service voluntarily is one of the greatest ways to keep the customer paying promptly. Despite arrangements you may have with the jobber and/or the factory, you must anticipate the possibility of having, in many instances, to render service alone. The time element entering this picture is often vitally connected with the reasons why you must assume this service. The manufacturer and the jobber may be perfectly willing, and even anxious to perform their duties in respect to the guarantee, but may be unable to render such service within a reasonable time. Prompt service invariably insures prompt installment paying by the customer.

Here's an actual case, and we are not going to describe the equipment for obvious reasons:

A dealer sold a customer an appliance, valuable only to the buyer if it functioned continually, and totally worthless if it did not. The device failed to operate, and the dealer picked it up and sent the defective device to the factory, where it remained for two months. The manufacturer was willing to do the work free, and his reputation was of the best, but the customer wasn't concerned with that. He was furious, and he held up payment on a series of notes he had given the dealer on the purchase of an appliance entirely separate from the one which became defective. He camped on the dealer's doorstep, and made the latter miserable.

Eventually, the dealer had to give the customer a new appliance from his stock, getting back a used piece of equipment from the factory in return.

This dealer solved the situation though. He developed a repair technique of his own on those appliances, and ever since has been repairing them in a few hours at his own expense, if guaranteed,—but profitably at the customer's expense, if beyond the guarantee period.

This problem, while it is only concerned with the service end, is actually a financial one, and shows the connection between good service and prompt payments.

What can you do now to get yourself set to finance this big television business that's on the way here?

For one thing, and perhaps the first step, you can sit down with a paper and pencil and figure out your present financial resources.

You can explore your potential market with a view toward determining how much money you will need to operate successfully in such a market.

You can determine whether your resources are adequate, or whether you will need additional working capital.

And, above all, NOW is the time to line up with your financing agency, be your choice a local bank, a finance company, a jobber or a manufacturer.

The dealer who puts his financial affairs in proper order and gets them ready for the firing line right now, is going to have more time to do his job, which is not financing, but is merchandising—selling television!

Window Displays

Clean, well-lighted windows and colorful and imaginative displays lure the passerby to stop and shop. Dress show windows to work for you night and day. Start now to make television exhibits identify your store as television headquarters.

Scrutinize the people who pass your show windows—men, women and children—rich, poor, healthy and infirm. They are the future customers for television, and it is for them that you should get the very best display out of your show windows.

There are others—others who will not see your displays. They include the shut-ins. But those who walk or ride past your windows can carry the television messages home to them. Your show windows, then, should be made to work for you continuously.

Here are the things you must have if you want your show windows to "sing:"

1. Clean glass. Washed frequently. "Steaming" and "frosting" prevented through use of fans, heaters, etc.
2. Adequate light. Use fluorescent tubes and incandescent "spots" and "floods."
3. Colorful displays. Use crepe paper, cardboard, wallboard, etc., for backgrounds, side walls, floors. Use pedestals and pyramids. Motion of any sort is a great "attractor."

There are two means of window decorating the independent retailer has at his disposal. He may "dress" the windows himself—with his own organization pitching in to help,—or he may hire "outsiders" to do the work.

Some manufacturers have, in the past, employed window dressers who go into dealers' stores and dress windows and decorate store interiors, furnishing all necessary materials without charge to the dealer. Naturally, the manufacturer, operating on this "free" basis, wants his own display to dominate the window, but seldom objects to the dealer displaying at the same time, other items that do not compete with him.

For instance, a large flashlight battery manufacturer made a practice before the war of decorating dealer windows throughout the United States, setting up very elaborate and costly displays. Many dealers took advantage of the background, side walls and other display features set up by the manufacturer and exhibited radios, washing machines etc., at the same time.

The independent dealer in dressing his own windows, is often confronted with the problem of show card writing. Many retailers are not able to make their own signs, and often do not have anyone in their organization capable of doing it. If this situation holds true in your business, you may solve it by investing in an inexpensive "self-lettering" outfit. There are a number of these on the market and through their use it is possible to letter professional looking signs in attractive colors.

Staying open at night to demonstrate to potential customers and to hold your "Television Theater" is part of your sales campaign. See that your windows are brilliantly and effectively lighted.

Most of these devices are extremely simple to operate, and do not require any skill on the part of the user. It is quite costly to have signs made on the outside, and thus it will be seen that a lettering device is a good investment and will pay for itself many times over.

At the present time, window dressing is quite a problem to the retailer, because of the fact that there is not much merchandise to display, and for this reason a television theme often offers the opportunity to solve this "headache."

Two sure-fire traffic stoppers are the employment of motion and illusion. Motion embraces turntables, or motor-driven devices of your own manufacture, and they are as effective in the large store as they are in the small.

A large electric-lamp manufacturer has made available to its dealers a number of easily built and cheaply operated illusion plans involving electric-light bulbs. And there are many other attention-getting plans possible to use, employing "electric eyes" and body capacity electronic relays, which switch on lights or motion as a passerby nears the window.

Where local ordinances do not prohibit, public-address systems heard outside on the street, can often be used to good advantage as tie-ins with window displays. Motion-picture projectors may also be used to provide motion and create interest in displays.

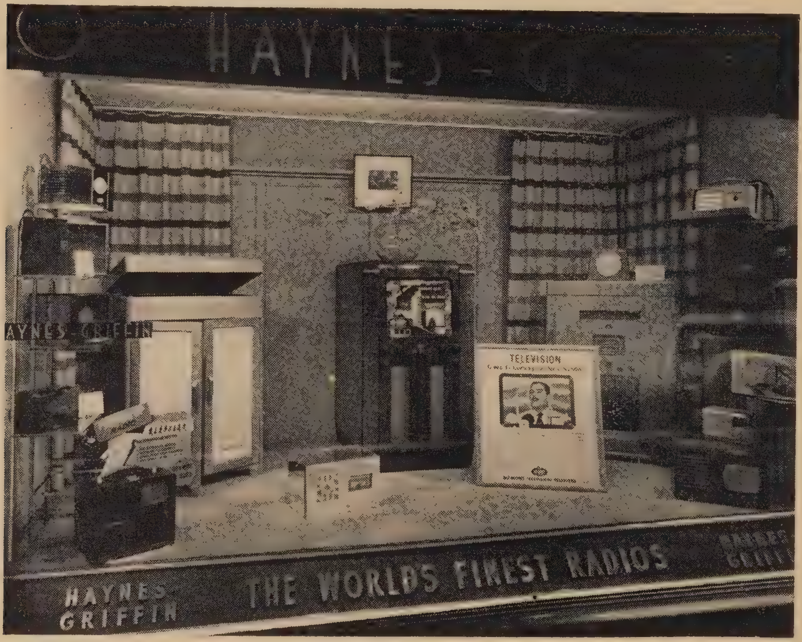
TELEVISION
BY DU MONT
CKERING - MASON & HAMLIN - AEOL
THE AEOLIAN COMPAN

One television receiver in the window can do more than anything to tell the passerby that you are planning to do a big job in the television business. If possible have the set connected for window shoppers to see programs.

When television sets are actually here, your problem will be different from what it is today. Now your main object is to identify yourself as the television man in your community. When sets are actually on hand you will have no trouble making suitable displays, and even operating tele sets in the window, through use of easily constructed shadow boxes, etc.

When merchandise is again available, it is well to bear in mind that there are roughly two kinds of displays for you to employ. One is the mass display —always the strong seller, and appealing largely on price inducement; the other window is a conservative one, stressing perhaps one of your most expensive television sets. In this window the high priced unit is purposely made the center of all attraction. The set may be placed upon a pedestal, lighted with a spotlight, or by a series of color spotlights, playing alternately on the unit. You may employ streamers from the corners of the ceiling to the set.

In the mass display, merchandise is packed in every available nook and corner, and prices are plainly marked, as are other inducements such as easy payments, trade-in allowances etc. The mass display window is generally brightly lighted over its entire area and it appeals to the customer in two ways. One is it creates a desire. The other inducement is that it appeals to the customer's pocketbook. Aside from these two features, a show window having many items often holds the passerby's interest longer than any other type of display because it takes time to go over everything that is shown there.



At every available opportunity, put television posters in prominent places in your window. Announce new interesting programs to be telecast.

The appliance dealer, in a mass window, can display his other wares along with the television set. In this latter type window it is generally advisable to have a "back" to prevent store-interior reflections which otherwise would give such a display a topsy-turvy appearance. The big "one-item" window, on the other hand, may often be used without a back, thus allowing people in the street to look into the store, which is often advantageous, since it allows them to see other merchandise on the showroom floor.

Today, with little or nothing to display in your show window, the use of illusion and motion is often the answer to the window dressing problem. The following are a few illusion displays you may want to use in connection with the publicizing of yourself as the television merchant. Here is an effective display, which though fairly well-known, is still capable of mystifying those people who have never seen it before.

Take a defective 30 watt inside frosted white D lamp, break it and retain the ferrule. Clean the inside of the ferrule out and coat the rim with glue, then fasten this on top of a good 30 watt lamp and screw the live end of the bulb into a brass socket; cut a small piece of pipe and run wires from the socket down through the pipe. Drill a whole in the bottom of a large goldfish bowl and set the pipe with the wires coming out of the bottom up in the goldfish bowl and fill with beach sand, covering the socket up to the neck. Then run the feed wires which are coming out of the bottom of the goldfish bowl, under the crepe paper on the showroom floor to an electric outlet. Be sure that all the wires are carefully hidden, and that the sand covers all parts of the socket. You will then have an illusion which will mystify anyone not familiar with it. The bulb apparently will be upside down resting in the sand, and will be lighted without any visible means of current supply.

A card can tie this in with television marvels in more than one way. There are many variations of this, such as the use of flower pots etc.

Through the use of motors and small pumps, such as impulse-driven ones (solenoid), animated and timely scenes may be constructed, such as pumping colored water down artificial mountains etc., and many attractive windows may be made using miniature villages as their themes.

Even toy electric trains which disappear through easily constructed tunnels are effective, and doubly so if an exterior control button to operate them is placed at the disposal of the passerby.

These "scenes" have great value in selling merchandise as they can tie-in with the seasons. For example, a winter or Christmas scene can not only be used to plug television, but to feature other gifts and window merchandise, and by the same token a summer resort scene may be employed to sell sun lamps etc.

Some dealers have a whole year's supply of ideas written down, and roughly laid out for 52 weeks in advance. The beauty of the above described windows is that they are not generally duplicated in your vicinity, and in addition are economical to construct. In making displays for your television windows, flasher buttons will prove of the utmost value in creating outstanding lighting effects and in inducing people to come closer to your windows. These buttons may be procured in a number of different speeds, fast, slow etc. and in various wattages, which is important to know, since many of them are limited in their capacities.

Perhaps one of the easiest things a television-minded dealer can do now is to put in a television window, even without his having any television sets at hand. For example, he can easily construct a dummy television camera from wood or other material and can use lighting in the camera's interior to make an effective attention getter.

Of course, the dealer who has a television set, and is able to get good reception has the means for showing programs in his window. He may mask out the entire window to the size of the screen and provide evening or daytime shows as the case may be. If the area around the window is very bright at night, and since it is light during the day, a shadow box should be constructed. In this connection the dealer should be sure to have some effective signs about television tied in with his business, in connection with this display.

Endless belt displays may be employed to carry signs about television coming before the pedestrian's eyes in sequence. These signs can stress a number of features television has to offer, such as "television brings the world to your home"; "television lets you see and hear the world's greatest entertainers"; "television instructs as it entertains"; "television is here today and will be here in a greater way tomorrow."

One of the most valuable tips on window displays is to avoid putting stock in your windows that you may be called on to show to a customer inside your store. If your stock is limited in number of items, as it may well be in the immediate postwar period, don't put all your television sets in your window which you may have carefully decorated.

If you do this you will make a shambles of your display and since you are often in a hurry, you may find cabinets or other parts of the sets will be injured due to haste in handling. Some dealers have tried to leave window backs open, so that they can demonstrate show window sets to customers, but there is a drawback to this since a customer himself does not enjoy having the people in the street see him "on exhibit." In addition, it is often impossible to provide a comfortable place for a customer to sit or stand under such conditions. Just as television is the show window to the world, your window is the show window to your business, and it may form favorable or unfavorable impressions upon those who see it.

So definite are the techniques employed by different stores in dressing their windows that most fairly intelligent people are able to determine a great deal about the business itself by viewing them. For example, it is no feat to walk down the main street of a town or city and figure out what stores feature cheap merchandise; which ones sell high priced merchandise—which are conservative stores and which are "high pressure" ones. The consensus of opinion among appliance dealers today seems to be that a variety of themes should be used in windows. That is, strong mass windows, occasionally—conservative class windows, occasionally. This change around will impress the customer that the store may have high priced and low priced goods in variety, and therefore it will appeal to them as an advantageous combination.

Today, all over the nation, there is a jockeying for position in the television market on the part of big manufacturers, jobbers etc. They are lining up now in order to make sure they will be off to a good start when the barrier is dropped down. The smart dealer should do the same thing, and certainly today he can do this with a minimum of effort and expense. He does not have to go into costly manufacturing set-ups, nor does he have to invest huge sums of money. But if he intends to participate in the television market as a retailer, he should certainly employ his show window—morning, noon and night. Window displays are the cheapest, yet the most efficient selling helps the retailer has at his disposal.

When you hear a professor of marketing talking about "point of sale" advertising don't be puzzled. Everyone from a drug clerk to a lawyer loves fancy phrases. What the professor is talking about is simply window displays. Most women are window shoppers. A good window induces them to take the hardest step of all, that first step across the threshold of your store. Some of your windows display advertised goods; they are thus a repeat ad. Most of your windows must stand on their own feet; if they contain non-advertised merchandise it must be especially well arranged if it is to stop the passersby. Unlike nearly all other advertising media, your windows will work for you while you sleep, long after the store closes and until your window lights are automatically extinguished by a late-set clock switch.

Window display has become something of an art. You can go along main street and see marvelous windows—then you'll run smack into the windows of a small, exclusive jewelry shop. In its two windows are shown a king's ransom of jewels. But the windows are dusty; there's dust on the fixtures, grime and fly-specks on the glass.

You can find this sort of window display in hundreds of thousands of stores all over the country. Big and little stores,—dusty windows, dirty displays.

Yes, window display has become an art but the fundamental rules that held true years ago, hold true today. Windows and window displays should be kept clean and well-lighted. Well-lighted windows attract more window shoppers. Window displays should be changed frequently. Certainly every week. Your window display man should have some sense of color, of balance, proportion. If he hasn't, take over the job yourself.

The Problem of Store Location

"East Side, West Side—All Around the Town." Business is done on both sides of the track. If you think your location is not suitable for the coming boom in television, this chapter tells you what to do about it, and how to determine neighborhood traffic.

This chapter is concerned with the merchant who is thinking—or wants to think—about the advisability of moving his business to another location, or perhaps is considering opening other stores in other towns.

Assuming that you plan to handle television, it will make no difference at the outset what sort of store you now have. If it is primarily a furniture store, a music store or a hardware store, what will be said in this chapter will relate to nearly every type of storekeeper interested in television.

Location is of the utmost importance today.

The old saw about "building a better mouse trap" does not altogether hold true today, speaking in general terms. If you're too far off the beaten path—if your location is difficult for customers to find, they'll often deal with a more conveniently situated business place—no matter what features you have to offer them.

In contemplating a move to other quarters from the standpoint of increasing your business, a certain amount of farsightedness is needed. You should be able to recognize trends in your town in order to translate them into your opinion of what effect certain of these trends will have upon locations in the town.

To cite an example. In a suburban town of about 20,000 population during the era when "self-service" grocery stores were in their infancy, two highways, running parallel to each other, and but a long block apart, bisected the town. One highway was the original, laid out when the town was first settled; the other was a new highway, straight, wide and concreted.

During the era above mentioned, here's what happened on those two streets. A continuous stream of "through" motor traffic whizzed along the new highway, and there were very, very few stores along this street, although zoned for business. Significantly, also, there were scarcely any pedestrians patronizing the newly-laid sidewalks.

The "old" highway, on the other hand, was full of stores on both sides of the street; and full of pedestrians.

The new road then was the artery through which motorists bent upon reaching some other destination than this town itself, were pumped through.

The old road was the artery whose precious fluid, in the form of resident-traffic, kept the local merchant alive. The stores had been there for years, and the location from a retailing viewpoint, had every indication of being static.

Is your location busy and are there many window shoppers? Are you in the high-rent district and are there sufficient numbers of passers-by prospects for the television business?

At about this time a few hardy individuals, noting the continuing increase in motor traffic, the continuing problems of parking cars in the "center" of this town, and the lower overhead possibilities on the new highway, moved their businesses there. They were looked upon as pioneers, and also, to a great extent by most of the other merchants as "men who should have their heads examined."

In a town nearby the one we are speaking of, an extremely progressive radio and appliance dealer had a place of business, and was casting about with an experienced eye for suitable locations in other towns.

He visited the town of the "two highways" and walked all over it.

This man saw people—more and more of them—venturing into a huge "self-service" grocery store. He saw cars slow up, and saw people look out of them at this new and daring merchandising project. He could visualize his seeing one day, car owners slowing up to scrutinize an attractive radio and appliance store. He saw cheap rent possibilities. He saw isolation from his competitors. and though he was a radio and appliance merchant, he saw a future in self-service groceries long before many grocery experts did.

Being a man of action, once he was satisfied that his beliefs had a chance of fulfillment, he opened a store there.

For a couple of years business dragged along, but, encouragingly enough, more and more people stopped cars in front of his place. and little by little his volume of business increased.

Is your store located in the main section of town or off the beaten track? Do many cars park in front of your store during the day?

The complete justification in his own farsightedness came with great rapidity. The self-service grocery idea was suddenly embraced lock, stock and barrel by the buying public. Three more huge self-service grocery stores were opened around in the vicinity of this radio dealer, and cars were often parked solidly on both sides of the highway. Other, bright new and attractive shops, housing various businesses, sprang up.

Business had come to the new highway, and the radio and appliance dealer commenced enjoying a splendid business, and, incidentally did a record job in television selling, because he was able to correctly interpret a trend. Trade, of course, continued along the old street, though in the course of a few years, the businesses shuffled around between the two streets, eventually changing the entire face of the old street as to the kinds of business—with most of the appliance stores moving on, or near the newer highway.

This does not mean that you have to have the "best" location in town in order to sell television, but it means that you must consider your location subject to "change without notice." Problems vary, due to many local conditions, but a look into other businesses, as they are concerned with location, may help us a lot in figuring out our own.

Drug stores try to locate on traffic corners or near theaters. Cigar stores and hot-dog bars usually rent expensive corner locations where traffic is heaviest. Specialty shops carrying hosiery, millinery, women's shoes, try to locate near big department stores, while men's wear stores tend to congregate in the vicinity of large hotels.

Are you near the main highway for "through" traffic and will it pay you to be a pioneer starting the trend for a new location, isolated from your competitors?

Your business location may be all right today. So long as you can get some idea of what it will be tomorrow, you are playing safe to stay there. Even if you are "around the corner," you may have certain advantages.

Some merchandise can be successfully sold despite lack of heavy traffic: refrigerators, vacuum cleaners, furniture, electrical goods. Stores that handle radio-music-television also do well on side streets or at locations where traffic is not heavy, especially because light traffic may make car-parking easier.

On the other hand how long will parking problems continue to bedevil town and city fathers? In normal times, car parking was a terrific headache to municipalities. Maybe some solution will be found, and if so, such a solution may seriously affect business locations.

A quarter-century ago the big chains were satisfied to count the total number of pedestrians passing a given point during a certain period of time. More recently some big retailers count only those persons who are carrying parcels, believing that they are thus identified as shoppers. Other store organizations omit from their traffic counts people apparently on their way to a certain factory in the morning.

In sizing up any business location from "traffic-by-the-door" standards there are certain elements to consider. Are sufficient numbers of passers-by prospects for your type of business? Will the "law of averages" bring in enough people off the street to pay the overhead? Will you be better off in a location where foot traffic predominates?—or where car traffic predominates?

Are you a local neighborhood store, getting traffic from adjacent residences and apartments? Is yours the moderate rent location or "secondary business district"? Are you getting the most out of it?

Suppose you're thinking of moving your business to another town—to a small town—say 2500 population or less—the dealer about to open a store will usually decide on a location near to all other stores. But his task will not be so simple if he is going to open up in a town of 10,000 to 20,000. The difficulty increases with the size of the community. A big city has hundreds of locations suitable for an independent dealer. Naturally the highest rents prevail in the "shopping district" locations. The most moderate rents will be found in "neighborhood" locations, where most of the stores are patronized because of their nearness to their customers' homes. There is a third type of location in most cities, especially the largest cities. It is the "secondary-business district," much less busy than the major shopping district and rentals therefore are proportionately smaller. It is not as convenient as the neighborhood location for most shoppers, but its stores offer larger assortments, frequently at more attractive prices than the neighborhood stores. In a few instances values are found to be even better than in the big stores located in the city's principal shopping district, and there is always the possibility of some change affecting the location favorably as we saw in the beginning of this chapter.

If a dealer decides to open a store in a certain neighborhood of a city, he estimates the number of families he can count on as prospective customers. If the section is only partly developed, he may find that it is growing rapidly and that he will have no nearby competitor. To break into a fully developed neighborhood is of course a tougher job. More traffic, but more competition and higher rent.

Obviously the direction in which the district is growing is highly important, especially if a long-term lease is contemplated. Transportation conditions are a first consideration, and there is the matter of one-way streets, parking lots, and the "right side of the street."

If you are seriously considering establishing a store in another town, or moving your own business you will of course visit the town and spend days or weeks studying the situation.

If a visit is not easily possible, or the town you are interested in is far removed, you can get basic information by mail. A community of 12,000 or more probably has a chamber of commerce or some similar business organization which will be glad to send you a booklet descriptive of its town: its age, population, principal industries, transportation facilities, and hundreds of other facts. . . . If the town lacks such an organization, you can address the mayor, or consult jobbers or manufacturers' agents near your home.

In any case, by one method or another, you should try to learn a great deal about the town before you spend any time in considering this or that location in it for a store. You will want to know whether it is growing or whether it has long been losing population to nearby towns or to big cities. Are there good roads, and if so will they be used to take customers to stores in nearby towns, or is the town you are considering the principal shopping center of the county? Is the town crowded only on Saturday with shoppers or is business well divided throughout the week?

What is the source of the community's buying power? If the town is in a farming section, diversified farming will yield more sales volume to a merchant than if his customers work one-crop farms. This one-crop type of country makes the extension of long-term credit more common. Long credits mean the merchant must have more capital and his risks increase. Retailers in factory towns are similarly interested in knowing whether payrolls are made up weekly or at longer intervals.

Obviously an industrial city is a safer bet for a dealer if instead of being a "glass city" or a "rubber city" it has a variety of manufactures: steel, furniture, ready-to-wear, rubber products, etc.

When a strike closes all the mills of a textile town, for example, merchants suffer measurably. If a town is dependent on one large plant for most of its income, naturally the prospective storekeeper will—or should—make very detailed inquiry as to its volume, profits, its slack periods, and other business history.

Obviously he will want to discover how prosperous the townspeople are. From various sources the dealer should be able to get statistics which will give him helpful information. He will walk about the town and drive about nearby territory, inquire about crops, observe the type of motorcar most commonly used, inspect sections where workers live, talk with bankers, retailers, jobbers, manufacturers.

If you decide to move far away from your own location you should decide whether you prefer a city to a town, California to Connecticut. We must assume that your choice lies between several communities, but that you've almost decided to open a music-radio-television store in the town of Shangri-la, Indiana.

It's a good, clean town, and for a dozen other reasons, not too definite in your mind, you think you'd be happy living and working in Shangri-la.

First, ask yourself whether the town has a big enough population to support your store? Second, what is the income of the residents of the town? Do enough of them have big enough incomes to buy the sort of merchandise your store will offer?

What about competition?—Maybe this Shangri-la is a town of 12,000, has several department stores, four furniture stores and eight specialty shops which carry, or might easily arrange to carry the same sort of goods that your store would offer.

What about that big city only a half-hour's bus ride from Shangri-la? Will that nearness hurt your chances of success? What about merchants generally in Shangri-la . . . are they on-their-toes, or behind-the-times? If the former, then they will help to draw traffic to your store. If the latter, it may be that you'll decide that their very backwardness will give you a better chance of success.

If you plan to "stay put"—do business at the old stand with the new television, you can size up the potentialities of your location and your town by making believe that you're going to move to another site—or even to another town, and having read the pointers in this chapter having to do with other places, apply them to your present location and your present town to give you a new insight in sizing up that with which you're so familiar—yet may not know at all.

In other words, maybe such a probe will reveal that you should change locations—then again, maybe it will convince you that you should stay where you are!

Reaching Out for the Farm Market

Entertainment, education and relaxation aspects of television will be boon to isolated farm families of America. Extension of rural high-lines and farmers' increased incomes make this market an interesting potential for the dealer.

Owning a television set is going to mean a lot to any American farm family within reach of television broadcasts.

For television will make it possible to bring to the isolated farm home "news-reels" of great events, plays and dramas, musical spectacles, comedians, travel pictures, educational courses, and farm-improvement methods, —all visualized—all "seen as well as heard"—with the farm-family occupying "box-seats," right in their own sitting-room! The modern up-to-date farmer knows that television's promise to him will be fulfilled, and he is waiting to greet it with open arms.

The farm market is therefore of great interest to the television merchant who grasps what this new facility will mean to the farm family in bringing entertainment, education and relaxation.

Broadly speaking, the farm family visits town infrequently. Gasoline and tire shortages play their part. In most cases, too, special arrangements must be made for these visits, such as extra help to take care of chores, etc. In addition, the average farmer and members of his family, since manual labor and long hours are involved in their lives, are usually too tired to go to town for recreation as often as they would like.

But television can provide the farm family with rich entertainment, right in the home, and under conditions involving the least possible effort on their parts.

Television will "bring the world" right to the farmer's home, and he knows this now. Radio brought the farmer nearer the world; television will do this even better through the more comprehensive medium of seeing as well as hearing.

Thus in one sense the farmer is a better television prospect than the city dweller. For in our congested towns and cities, television programs are forced to compete with movies, legitimate playhouses, concerts, and other attractions. But the isolated farmer cannot easily nor readily get to town to enjoy those entertainments so readily accessible to his urban brother; hence, a competitive element has actually been removed in considering the farmer as a prospect for a television receiver.

One of the most important promises television has for the ruralite is the special "farm program," televised for the farmer's education. The Grange, the county farm-agent bureau, and the Department of Agriculture now can not only tell the farmer, about better farm methods—they can also show him!

Television will "bring the world" right to the farmer's home. Because he is usually isolated, the farmer will be eager for the entertainment, education and instruction which television promises.

Viewing television sales possibilities in farm areas, think how a farmer will feel about an instrument which, right in his own house, can not only explain, but also illustrate, for example, a new device that shears sheep—milking-machine and cream-separator techniques—soil-testing methods—crop-rotation practices, photographed on the spot at the agricultural experiment station—livestock feeding methods and livestock judging practices,—and demonstrations through which the farmer will be able to see how to cull out undesirable specimens in poultry, cattle, swine, etc. These are to mention but a few. And, then think how the farmer's wife will be enabled, through the agency of television, to learn (via pictures as well as words) the newest in canning procedures and other things intimately connected with her life on the farm.

Entertainment and education for the children on the farm, will be one of the greatest services television has to offer. And since the American farmer today has gone in for home modernization, he will want television for the youngsters. And he will get it for them to enjoy, just as he has provided them with cars, individual radios, and educational facilities undreamed of in the early days of American agriculture.

From the dealer's standpoint—viewing the farmer as a prospect for television—the dealer will find that the farmer has more money in his hands today than ever before in the history of the country.

Roughly, there are six million farm families in the United States. In 1942, their income was sixteen billion dollars—which is at the rate of nearly $3000 per farm per year. By boosting his production to keep the nation in food during wartime, the farmer boosted his own income at the same time.

The farmer and his family may see an exciting and amusing rodeo or circus without leaving their sitting-room chairs!

Since the United Nations are faced with the possibility of having to feed the world, the American farmer's income can well increase in the postwar period—the demands on him may well be greater when the war is over.

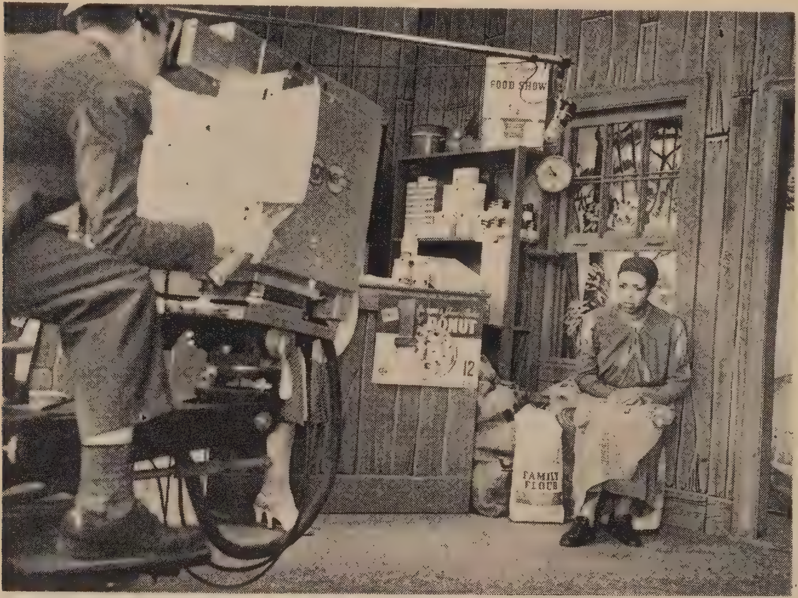
From the standpoint of stability and potential income increase, the American farmer becomes a desirable prospective television purchaser.

Another encouraging aspect of selling television receivers to farm families is the assured postwar back-to-the-land movement, which will mean a big increase in the number of farm families, and a resultant increase in the potential market.

Also, it seems entirely possible, that the government will, after the war, provide attractive farm homesteading privileges for its men and women discharged from the armed forces.

A book could be written about the potentials in selling television to the farmer, and about the things television can do for the American farm family, but since this chapter, like all of the others, is concerned with telling you how you can get ready to sell television *now*, it is well to point out some of the things you can actually do to insure your share of rural business when television receivers are yours for the selling.

Your store should be television headquarters, and every member of the farmer's family should know this. You can employ the same ideas as are described in other chapters to attract television interest to your place of business, and give it that television slant, and you can employ the advertising principles outlined, also.



Ethel Waters may sing in her rich voice and act a scene from "Mamba's Daughters" for the farmer's entertainment.

If your territory is already served by television, maybe you have a television receiver on hand. Some dealers do. It may be that you can buy one, or build one up from parts. If you can, you can do what numbers of other dealers are doing—give regular television shows. Attract the farm folk when they come to town, and get yourself identified as the television merchant.

If you find it impossible to procure a television receiver or to make up one, you certainly can rig up a public-address system, and put that to work for you—talking television. Use one electronic device to sell another. Lots of dealers advertise their business via the loudspeaker. You can remind the visiting farmer that you're going to have television to sell him. You can invite him to come in and see you and sign up in your "priority" plan, without any obligation on his part—except a moral one.

Doing business with farmers is satisfying as well as profitable. Farmers are among our greatest class of cash-buyers, and when they do buy on installment plans are noted, for the most part, as prompt payers.

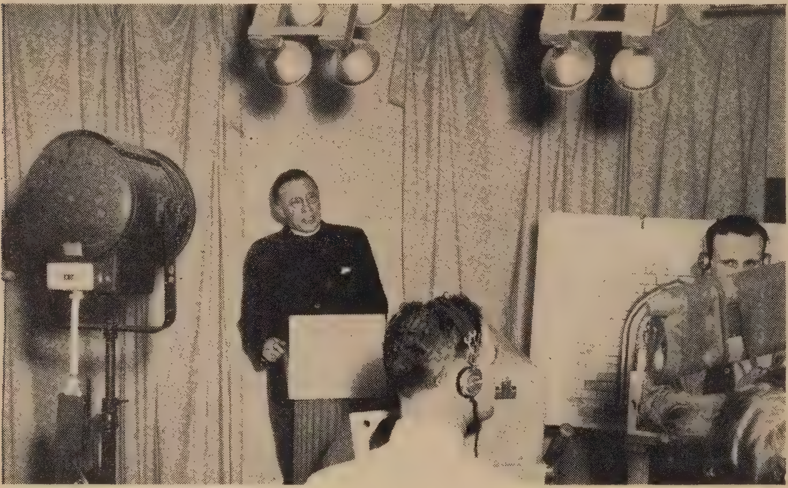
A great many farms are now hooked up to receive current from the central station, and there is, and has been for some time, a growing, rapid trend toward rural electrification. Only the war, with its attendant shortages of material and manpower, has prevented the rural electrification program from assuming gigantic proportions. It is certain that as soon as peacetime schedules again become the order of the day, one of the first big undertakings—government-encouraged—will be the extension of rural electricity "high-lines" all over the country.

Instruction will be given the farm wife for cooking the latest, appetizing and satisfying meal for her hungry family.

Even today, in the territory immediately surrounding the dealer's place of business, practically all of the farms are customers of some utility company's 110-volt 60-cycle service, thus it is comparatively simple for the dealer to survey his farm prospects from the electric current standpoint.

And—who knows? Maybe later you'll have something in the way of television to sell the farmer who has his own lighting plant. Remember what happened when the nation-wide conversion from battery sets to "all-electric" receivers took place? The farmer was left out in the cold with an obsolete radio—but not for long. American manufacturers took cognizance of the demand, and as a result battery-operated sets of the finest sort, and receivers of high quality designed to operate from the farmer's lighting plant, were speedily put on the market.

From the installation standpoint the isolated farm looks pretty good to the television dealer, since interference can often be minimized, and there's all outdoors for the antenna location—away from other antennas. Of course, some farms will be situated in "trouble zones," due to natural obstructions, etc., but experts believe that as a general rule, farm television reception will be of the best.



And on Sundays the whole family may sit around the television receiver and join in prayer with the minister of the distant church.

"Repeat" business, or immediate purchases of more than one tele receiver by the farm family is another possibility for the alert merchandiser to think about. Farm families today, as a rule, own more than one radio receiver as do so many urban families.

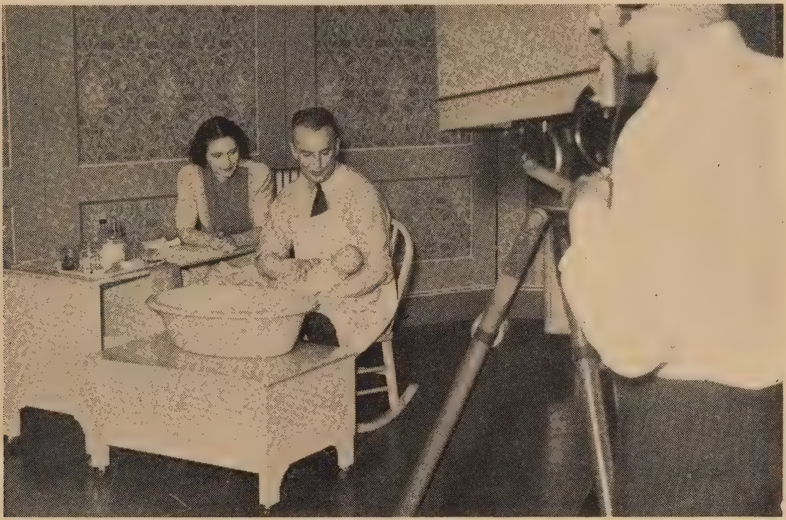
When you sell the tavern owner a television set for his place of business, he'll want one or more for his home, and by the same token it is entirely reasonable to believe that the farmer will be a prospect for more than one set too.

The farmer may want one television unit for his place of business and one or more for his home too—and this may well be envisioned for the specialty farmer, such as the dairyman and poultry raiser, who spends a great deal of time in farm buildings.

Today radio receivers in barns, etc., on the farm are commonplace all over the country. A few years ago such a thing as radio-equipped barns and other farm buildings would seem fantastic—today it's simple fact.

What is a "farm" and what is a "farmer?" are questions each dealer must ask himself, in order to survey his territory in reaching out for the farm market. The merchant must know something about local farm situations in order to be successful in selling his farmers. He must familiarize himself with the type of farming—diversified farming, dairying, poultry raising, grain growing, vineyard farming, fruit growing, cotton raising, etc.,—in order to ascertain certain things, among them:

The best time to call on the farm family. Periods when the farmer has the most opportunity to talk to the dealer, from a time standpoint.



What are the latest, hygienic methods of taking care of the baby which Mrs. Farmer has not been able to get to town to find out about? She can learn by switching on her television set.

Times of the year when the farmer has the greatest income, and times of the year when the farmer has the most money invested, and must wait for payment after crops mature and are harvested; payments to him falling due, etc.

The dealer must, in view of all these factors, know his farm territory intimately if he is going to render efficient service to the farmer, and do a good job selling television.

And the dealer must exercise the same care in selecting salesmen to contact his farmer prospects—to suit varying farm conditions—as he must use in selecting salesmen to call upon the people in the town and city where he operates.

Television will educate millions of farm families, and will be a big factor in increasing farm production. It—television—will entertain millions of farm families, and, like radio, will be an "open sesame" to the great wide world to many a lonely farmer and his family.

Television should be of the utmost interest to the farmer, and it's your job to sell him this idea. If you can sell him this interest in television you have sold him a television set.

Yes, after the urban market, the farm market for television looms important, in those areas where television broadcasts can be picked up, so it's poor business not to do something about it now.

They're Backing You Up

Huge resources of great and diversified interests, plus know-how, manufacturing plants and manpower are all behind television. Prospects of fair returns for money invested insures eventual nation-wide video coverage and many nation-wide program sponsors.

Before the smart retailer puts a dime into the television business, he has every right to consider who and what is back of television because he knows that no matter how marvelous this new thing is, television will not be profitable to him unless it has four things to back it up, and they are:

1. The know-how.
2. Unlimited capital to carry on until a profitable basis is reached.
3. Men whose faith and knowledge assures their continued interest in the project.
4. Potential sources of revenue to the television broadcaster.

Yesterday—meaning some years ago—we possessed the "know-how." As years went on, knowledge in television increased rapidly. Today, we know how to conquer almost any video problem. The war has brought many electronic improvements directly affecting television. We know that television programs can be received far and wide;—that distance, power and other factors are no longer obstacles, except from a financial viewpoint.

Have we, therefore, reliable assurances that sufficient money is back of television right now, and that sufficient will be forthcoming to continue long enough to do business on a big scale?

Have we enough big men and big firms backing us up in television?

Do we see the ways and means to support television broadcasting?

We can all readily admit that we now possess the know-how, and therefore, we can pass over this aspect without further comment.

Taking up the second item, having to do with finances, let us look over recent issues of "Radio & Television Retailing," and other magazines and see what the big fellows in manufacturing say in their advertisements. Let us study the messages they are now spending money on, in order to promote television to America's 22,000 radio dealers.

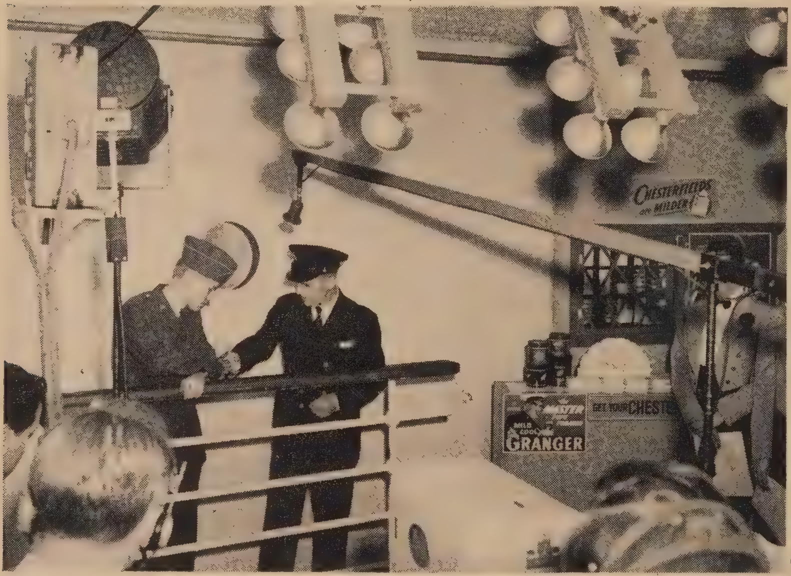
Radio Corporation of America, for instance, runs four-color pages on television. Some of the punch-lines follow:

"You radio servicemen and dealers of yesterday and today have a great *tomorrow* ahead of you! *Television.*"

"Television can make *you* a bigger man."

"Today thousands have 'ringside seats' right in their homes . . . "

"RCA has spent more than $10,000,000 in the development of television."



"Have you a cigarette?" is part of the commercial for Chesterfield. All of the commercial television programs illustrated in this chapter are actually on the air now. So it is obvious that many big companies are "backing you up."

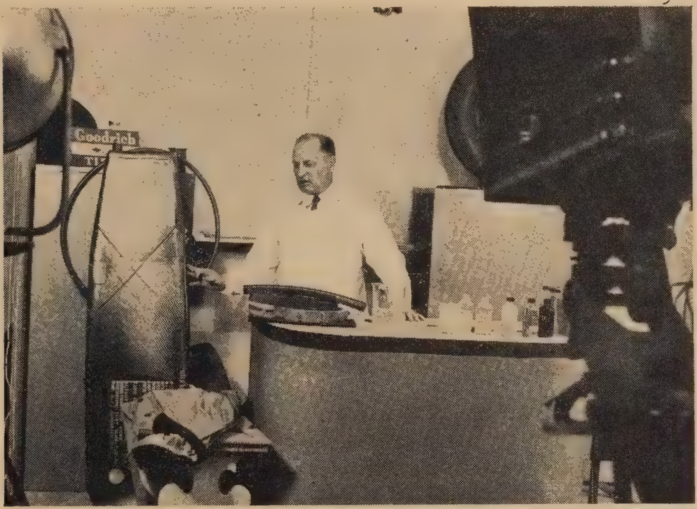
Advertising by the huge General Electric Co. highlights television, along with radio and electronics. "First in radio, television, electronics," they claim. "Reserve your place, NOW in the coming great new industry, TELEVISION" and "TELEVISION! Stripping away the blinders of distance and darkness, building a bridge across space, television is bringing the world right into your living room!"

Allen B. DuMont Laboratories' statement is headed "The Biggest Window in the World," (the "window" being the television screen) and tells the dealer that "each one of your customers is going to buy a brand-new window for his home—and you're going to sell it . . . sooner than you think . . . "

Farnsworth Television & Radio Corporation heading its advertisement, "How Will You Sell Television?" Not *whether* you will, notice, but *how* you will. And "Tomorrow's television dealers will come from the ranks of today's radio retailers" as well as "This meeting of Sight and Sound made plans for your future."

Philco Corporation saying, "TOMORROW Television is Coming," featuring television illustrations, and "Television, the 'billion dollar industry' of the future."

Emerson Radio & Phonograph Corporation full-page ad with "Television by Emerson Radio" dominating the space, and "A Theater in Every Home" its theme.



The men in back of the dealer are also the sponsors of the television programs, because no programs, no customers—no customers, no sponsors. To advertise synthetic rubber, B. F. Goodrich Co.'s research head demonstrates the process involved in its manufacture.

Other great names in radio too! Admiral, Automatic, Belmont, Clarion, Crosley, Delco, Detrola, Espey, Fada, Garod, Hallicrafters, Hammarlund, Hazeltine, Hoffman, Howard, Majestic, Motorola, Philharmonic, Sentinel, Sonora, Sparton, Stromberg-Carlson, Templetone, Trav-Ler, Westinghouse, Zenith, etc.

Do a little arithmetic now. Add up the names above, and as many other radio manufacturers as you can. Then combine this figure with the huge resources of the broadcasting systems, and the movies, and combine with all those big names in the electronic component manufacturing field, and you'll have a staggering figure to prove that there's real money back of television, —money measured in billions.

Already, we see, huge allotments of the resources of many of the country's largest manufacturers and broadcasters are back of television.

Now we come to the men behind the television scene. These men are the executives and engineers in manufacturing and broadcasting. They are big men and their thinking is sound. How do they feel about the future of television? Let's tune in on a few of them.

Dr. W. R. G. Baker, General Electric Co.,—"Television will create as revolutionary a change in the world as did the invention of the printing press," says Dr. Baker, who is vice-president in charge of electronics at General Electric Company, and chairman of the Radio Technical Planning Board.

Thomas F. Joyce, who heads the radio, phonograph and television department of RCA Victor at Camden, N. J., states . . . "It would not be unreasonable to assume that within ten years after the full commercialization of television, television service would be available to 23,700,000 wired homes or 80% of the wired homes in the United States. . . . Television industry sales at this point should be, approximately, 3,500,000 units per year for a total retail billing of between six hundred million and seven hundred million dollars . . . "

Remington Arms' television commercial is set in a hunting lodge with the men discussing firearms.

Allen B. DuMont, president, Allen B. DuMont Laboratories, Inc. . . . "Despite wartime restrictions and handicaps, a good start has been made toward fully commercialized postwar telecasting. The DuMont Television Station WABD is catering today to perhaps 25,000 or more lookers-in. There are probably 6000 working telesets or television receivers in the New York metropolitan working range of WABD. Many of these telesets are in public places such as taverns, hotels, clubs, hospitals, with an average of a dozen or more lookers-in. When war restrictions are lifted and telesets can once more be manufactured, there will soon be hundreds of thousands of such sets in operation, with an audience totalling a million or more within the first few years of commercialized television."

Niles Trammel, president, National Broadcasting Company: . . . "NBC will continue its activities in the field of television with vigor and confidence, with absolute faith in the vital significance of sight-and-sound broadcasting to the American public. Television promises to be the greatest medium of mass communication yet evolved, with unparalleled opportunities for services of entertainment and education."

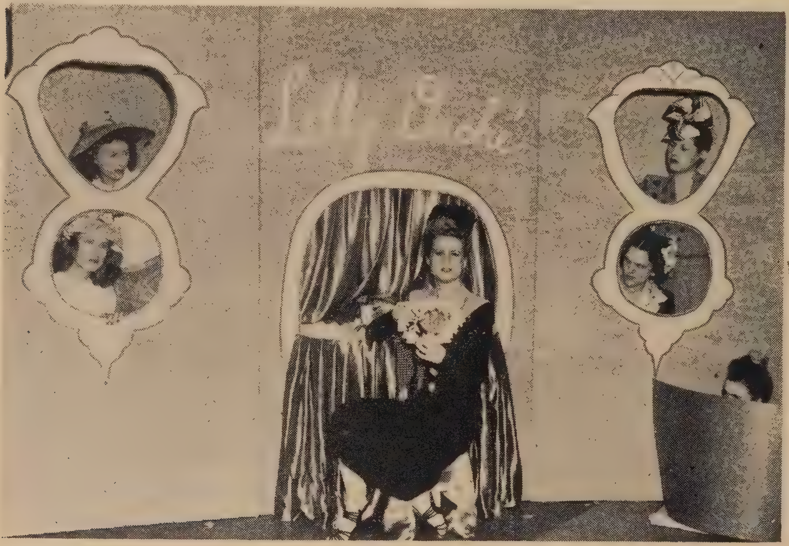
A singing cowboy in Royal Crown Cola television program stops for a drink of his favorite beverage.

Paul E. Kesten, executive vice-president, Columbia Broadcasting System—"Enough has already been done—developed, tested, proved, and put to work—to strike off the technical shackles that held pre-war television to a relatively coarse-screen picture. Enough to free television from the strait-jacket of narrow-band, black-and-white transmission. Enough to promise pictures twice as large and twice as rich in detail, as well as pictures in full and brilliant color. Enough, in sum, to make the 'good-enough' pictures in full and brilliant color. Enough, in sum, to make the 'good-enough' pictures of pre-war vintage seem not good enough at all, in terms of postwar possibilities."

James Lawrence Fly, chairman Federal Communications Commission. "I think it is quite likely that during the postwar period television will be one of the first industries arising to serve as a cushion against unemployment and depression."

J. H. Carmine, Philco.—Stating that once standards have been set by the FCC, every major city in the United States will have a television station just as quickly as transmitter deliveries can be made at the end of the war, James H. Carmine, vice-president in charge of merchandising for Philco Corporation, also predicted that it may be possible to sell sets for as low as $125. He also said: "Television broadcasting facilities today are within reach of approximately 25,000,000 people, provided receivers were available."

General J. G. Harbord, chairman of the board of RCA, declares that National Broadcasting Company, a subsidiary of RCA, "proposes to contribute the utmost to the earliest possible development of television as a nation service and industry . . . "



Lilly Daché, famous hat stylist, conducts a fashion show of the latest in millinery for her commercial.

Dr. A. N. Goldsmith, noted engineer and vice-chairman, Radio Technical Planning Board . . . "The prospects for commercial television seem bright, and, granted wisdom and reasonable unity within the radio and affiliated industries and sympathetic encouragement and wise guidance in governmental quarters, there appears no major cloud upon the television horizon . . . "

Paul Galvin, former president Radio Manufacturers Association . . . "When commercial television does come it will move very fast. Technical advances made during the war have brought forth improvements that make possible moderately priced television sets which will reach the mass market . . . "

B. Ray Cummings, vice-president in charge of engineering for the Farnsworth Television and Radio Corporation sees a great postwar future for television projected-picture sets.

Cecil B. De Mille, movie tycoon, has entered the television field, and has joined Bamberger Broadcasting Service, National Broadcasting Company, Columbia Broadcasting System, Don Lee Broadcasting System, Crosley and many others by becoming a member of the Television Broadcasters Association. And other movie magnates? According to "Variety," Jack L. Warner, Warner Brothers studio, said "There is no limit to its (television's) possibilities. It just staggers the imagination."

And Dr. Ray Manson, vice-president and general manager of Stromberg-Carlson says, "Here's our thinking on television: 1. Television has a *great* future. 2. There is tremendous public interest in television. It will be several years after the war before television broadcasting stations can be built to provide full national coverage. 3. As television broadcasting facilities develop—territory by territory—good business opportunities will be presented to you—and to us."

The attractiveness of a stocking is enhanced by the attractive girl showing it. This is the way Gold Mark Kantrun Hosiery presents its product.

Ben Abrams, president Emerson Radio & Phonograph Corporation: . . . "we plan to make compact models of television . . . "

Lou Silvers, sales manager Garod Radio Corporation . . . "We'll be ready with new designs, new features . . . , television sets . . . "

Avery R. Fisher, Philharmonic president . . . "Phil-American will return to the production of Philharmonic radio-phonographs . . . featuring home recording and television . . . "

D. W. May, prominent New York distributor, and radio pioneer, whose firm became one of the largest radio distributors in the world, predicts that "during the first postwar year that television is manufactured, dealers will sell *every set* the makers are able to turn out."

Summing up such a mass of evidence in support of the contention that we have the know-how, the financial backing and the men necessary to promote television, we come to the last aspect, and that is the potential sources of revenue to the broadcaster. In the final analysis, one must recognize that the more support the broadcaster gets the better his programs will be. We see that the manufacturer can make sets; the broadcast chains can blanket the country with programs, and the dealer can sell the sets. The maker gets his profit from the jobber and dealer. The retail merchant makes his profit when he sells the sets to the ultimate consumer, but this leaves us with the problem as to who pays the television broadcast station for investing its capital in equipment and in sustaining talent.

MENDING TAPE
TELEVISION FORUM

A method the sponsor of Press On Mending Tape uses for advertising is pictured at left, while at right a group of men are discussing the many aspects of television.

Good programming is just as important as good equipment, and is just as necessary to the dealer in doing a good job selling television receivers.

What are the prospects of a fair return for the broadcaster? The retail merchant must ask himself this question since it is so directly concerned with the future of television.

Here are three reasons why television appeals to advertisers:

1. Television, the new art has already taken giant strides on its way into the homes and the hearts of the nation's millions. Strides perhaps unmatched by any other important invention. The demand is here.
2. Television surpasses even radio as an advertising medium, because the set owner must devote *all* his attention to it. The housewife cannot

turn on the receiver and go about her tasks, as she does now with radio. She must see and hear everything. Since sound and pictures are synchronized in television, one cannot fully understand a program unless he sees and hears it at the same time. Television commands the owner's attention.

3. The advertiser can show his product in any setting he desires. Television advertising, compared to radio advertising as we now know it, is somewhat like the difference between an illustrated and an unillustrated advertisement.

Not long ago in New York City there was a large gathering of top-flight advertising people. These people make a living promoting everything from chewing gum to transport planes. The mediums they use include newspapers, radio, billboards, magazines, folders, pamphlets and what-have-you.

But at the above mentioned meeting they were not spending a lot of time talking about the advertising mediums they are commonly using at this time.

They were talking, for the most part, about television.

Television has the "heat" on the advertising people, and is bringing pressure on them from two sources. 1. The sponsor wants television. 2. The people want television.

All over the land, advertisers and agencies preparing and selling advertising are setting themselves up now to use television. There is interest at every hand, and more important, there is in sight at this time money enough to pay the broadcaster for his investment in the necessary equipment to do the job of television coverage. The broadcaster may have to wait a while for his money to come back to him, but he—the broadcaster—sees assurances of fair return in this investment.

Then too, there are the powerful and wealthy movie interests. Many are actually in television now. Tom Connors, film distribution chief of 20th Century-Fox, recently returned from a tour of key centers, says that television is the No. 1 topic of discussion among motion picture exhibitors throughout the nation.

Says Frank E. Mullen, vice-president and general manager of NBC, "Television will add to Hollywood's prestige as a fountainhead of entertainment."

Movie interests right now are tied-up in television in a big way.

Legitimate play producer organizations and groups of stage players are becoming identified with the television boom.

Powerful publishing interests are well represented in television.

Electronic manufacturers own many television broadcast stations now.

And other new means of helping to support television continually crop up. For instance, Dr. E. F. W. Alexanderson, radio consulting engineer of General Electric Company, sees financial aid for extensive television relay chains, through the use of these radio highways for mail purposes (facsimile), other communications purposes, and for aviation information. "We must keep in mind that such radio highways may be used for many other purposes. The all-around usefulness of radio relays is therefore important because they will serve not only the television industry but the communication industry at the same time," says Dr. Alexanderson.

All these vast interests and forces are therefore backing up the man who retails television. They form a most impressive picture of the knowledge, resources, and executive experience necessary to launch television successfully and to keep it driving energetically ahead!

A Look Ahead at Television Receivers of the Future

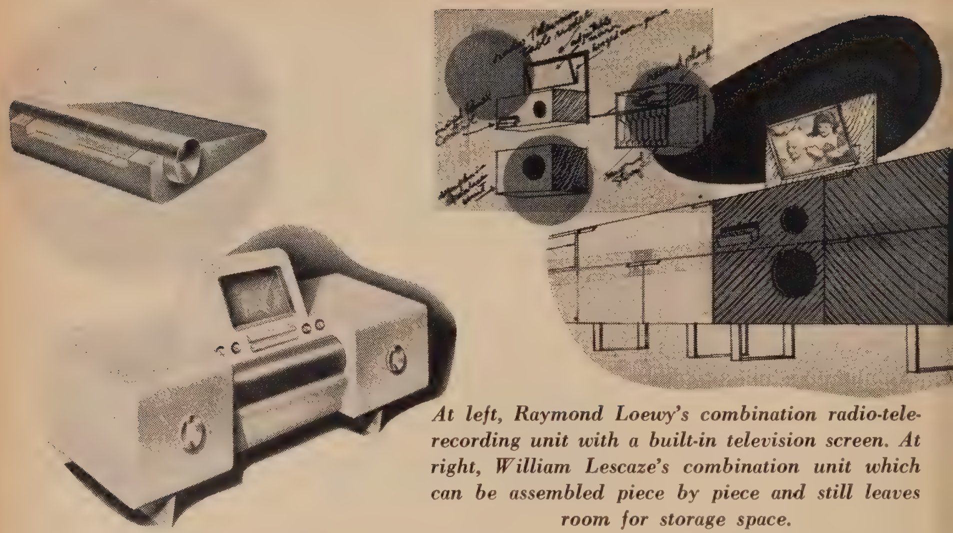
Some ideas by well-known industrial designers. Projection and direct-vision sets, combinations. Probable cost of future telesets will be lower because of acquired skill and war production experience in electronic parts manufacture.

A great deal of discussion has been heard in the industry about the appearance and design of the television sets which are first going to be produced. Some of the large manufacturers have already employed designers to sketch plans and layouts of the television receivers which it is felt will have most popular appeal. Many companies will go immediately into production of telesets scheduled for manufacture when the war interrupted. And again there is debate as to model standardization possibilities. Shall we have a great number of different type sets—small models, large models, sets with many different size screens?

Well-known American designers have tucked away in their files or in their minds, plans of how they feel the future television sets should look and operate. And several of these designers have made statements outlining their conception, accompanied by sketches.

Raymond Loewy, for instance, well-known for his designs of streamlined trains as well as experiments with household furnishings, anticipates a combination radio-tele-recording unit which is operated directly by push button or remote control, a detail of which is encircled in the accompanying illustration. This remote control can regulate volume, tone and tuning of television and radio units. The screen is set at an angle suggesting the music rack of a piano, for ease of viewing when the audience is seated. Records are set up in a vertical position, thirty at a time, and both sides are played in order.

Gilbert Rohde predicted that larger radio and television cabinets will no longer masquerade "as a chest of drawers or a sewing cabinet, but will be an instrument in its own right" and will convey the feeling of precision.



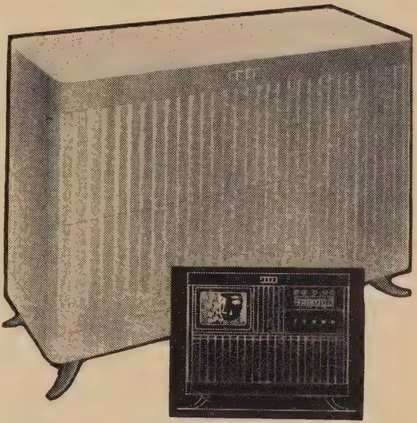
At left, Raymond Loewy's combination radio-tele-recording unit with a built-in television screen. At right, William Lescaze's combination unit which can be assembled piece by piece and still leaves room for storage space.

William Lescaze hopes to establish a better relationship between industrial technique and the budget of the consumer and to obtain a more accurate knowledge of consumer needs and of equipment necessary to meet them. This led to Mr. Lescaze's "unit radio design," which allows the consumer to purchase step-by-step a complete radio-television-symphonic record player without having to pay right at the beginning a high initial cost of

Experimental large-screen projection television receiver designed by John Vassos.

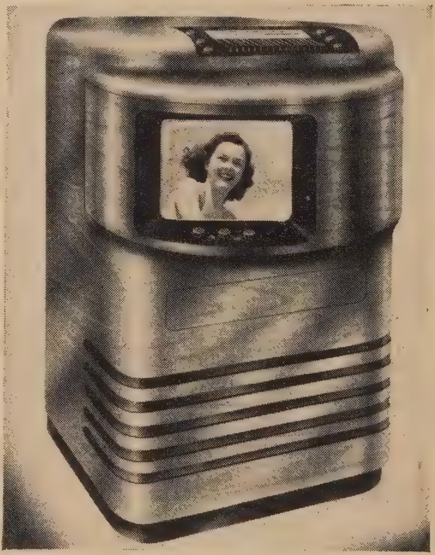
such a combined unit. In this one-at-a-time idea, Mr. Lescaze designs large wall cabinets into which a radio television table model would fit. There is a hinged cover panel and an adjustable mirror for the televised image to be shown upon. At the bottom of the cabinet is a hinged panel which contains the station, volume and tone controls.

Gustav Jensen says that "with television, radio comes into maturity and there is some hope for the stabilization of the instrument as such and hence the evolving of a standard design of general acceptance such as the piano and other musical instruments." The television receiver, Mr. Jensen feels, will be a combination instrument, particularly for the music lover and will have a phonograph as well as ample space for record storage.



Gustav Jensen believes in compact pieces of furniture being most practical for limited space in the home.

Charles F. Dreyer believes that audience comfort will be the outstanding feature of television sets, and he proposes a revolving turret screen in which desirable flexibility of screen movement is achieved. In this plastic-bonded plywood cabinet the screen can be turned to face the viewer at any position. The problem of proper viewing level should take into consideration larger audiences of four to a dozen people where there is a need for unobstructed vision and the conflicting desirability of below-eye-level vision for relaxation without neck strain. Another proposition disengages the tube unit from the otherwise cumbersome electrical and mechanical body of the set and makes a flexible unit of the screen alone.



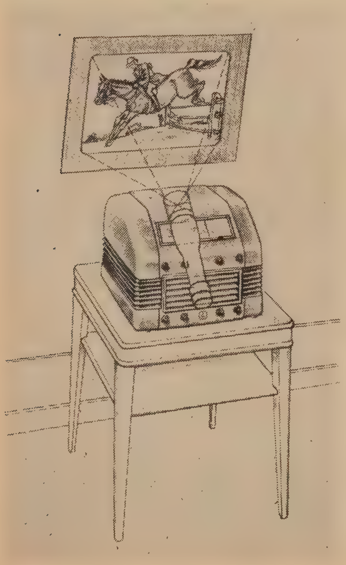
Charles Dreyer's television receiver features audience comfort and a revolving turret flexible screen.

People are demanding larger screens and it begins to look as if the most generally acceptable will be those receivers which will produce images about the size of those made by a home movie projector. In order to accomplish this, there is another method of transmitting a picture, called projection television. Dorman Israel has designed a complete radio and television set about eighteen inches wide by fourteen inches high with a three-inch projection-type cathode-ray tube. The television image will be enlarged and projected to fifteen by twenty inches on an external picture-type screen, by means of a plastic lens system. The screen can be hung on a wall under a painting or such, and when the set is to be used the painting can be removed. This allows the screen to be permanently in position for easy accessibility.

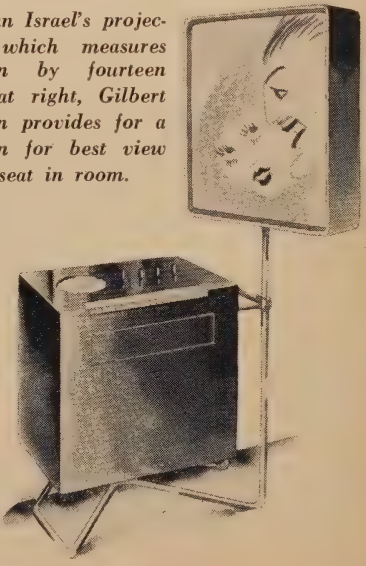
Another type of large screen receiver, developed under the direction of John Vassos, provides for a picture thirteen and one-half by eighteen inches. It is translucent and retractable, sliding down into the cabinet when not in use. The picture as it originally appears on the face of the tube is projected through a lens to the mirror on the underside of the cabinet's uptilted lid, from which point it is reflected to the viewing screen.

The actual price of these future telesets, of course, is still only a matter of conjecture, but it has been estimated by some of the leading men in the field that volume production will place the sets in a \$150 to \$500 range with \$200 sets predominating. There are a number of reasons why it is felt that telesets will be within reach of the average consumer's pocketbook. Primarily, the experience that wartime production has given us and the results of wartime usages will enable the manufacturer to produce the component parts with greater skill and with a minimum of expense.

The "seeing" part of television, the cathode-ray tube, which causes the projection of a picture onto the screen has in the past cost about three times as much as it is estimated it will cost postwar. Likewise, high-grade insulation, transformers, capacitors, high voltage power supplies, etc. are expected



At left Dorman Israel's projection teleset which measures only eighteen by fourteen inches. And at right, Gilbert Rohde's design provides for a rotating screen for best view from any seat in room.



to be lower in price. Men and women have been trained to produce quickly and skillfully, flawless products for military purposes. These men and women will be able to continue postwar to produce these same parts for civilian use. When a factory is geared for this type of mass production, it must of necessity bring the cost of the individual piece down from its pre-war, custom-built stage.

When these factors are taken into consideration, together with the skill that engineers and production men have acquired in radar, military communications, radios, facsimile reproduction, it is logical to assume that the civilian will benefit from this by having a television set in his home which will comply with his current budget.

Backstage in a Television Studio

What goes on beyond the camera's vision in a telecasting studio. How dramatic action is controlled without the home audience knowing it. How special scenic set-ups are made. The mobile unit.

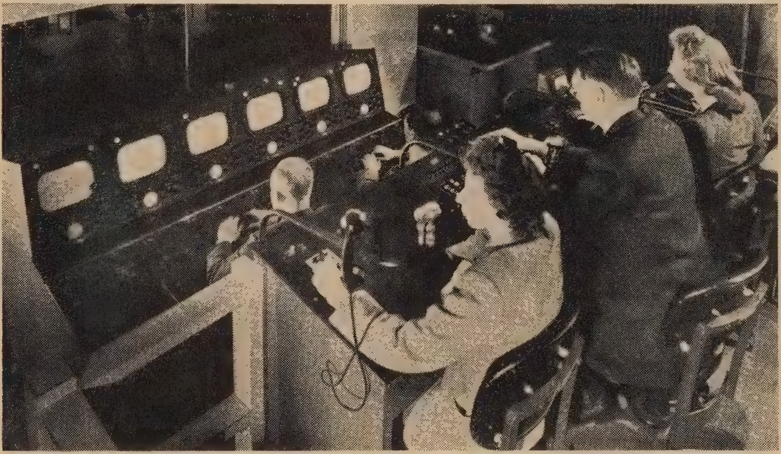
When we listen to Jack Benny on Sunday nights, or other similar programs, often we hear the studio audience go off into gales of laughter at some gesture or facial expression, unseen to us—some little things that we wish we could just "be in on." In a television broadcast, we do see the actors and the sets. But what goes on, out of the camera's range, out of earshot—what is happening at the controls—are all interesting to know about—like watching a moving picture being made.

The many factors that go into the making of a television program prove the vast difference between the presentation of visual as against aural entertainment. A thorough knowledge of the procedure on the part of camera men, sound-effects men, the actors, directors, etc. is necessary to produce a smooth, flawless performance.

The primary difference in the process of producing a telecast is the fact that the actors or participants must be constantly aware of the camera and must stay within its range. As a general rule they will not be near a visible microphone. There is a relatively small space in which they may perform and actions must be modified with this in mind. The difficulty of transmitting emotions by facial expression alone necessitates other means of portrayal.

Let us take, step by step, the factors which go into the actual television broadcasting of a half-hour of a current drama to the fireside audience. The technical consideration of the scope of action is the director's first worry. There are but two or three cameras present with which to execute the program, and the action must be suited to these limitations to present a credible and plausible production. Having taken these limitations into consideration, having discussed and planned for the necessary scenery and sound effects, having selected the cast, the director is ready to go into rehearsal with the script in hand.

Preliminary rehearsals proceed in much the same manner as a stage rehearsal,—with actors reading from script, using chairs and tables as the only "props." The camera is always kept in mind, but at the moment is purely imaginary. About a week of rehearsal approximately is required to give the sketch a finesse and expert aspect, and then on the last day or two the sets are assembled, the scenery and costuming prepared, and the camera and lamps and other necessary equipment brought into the production.

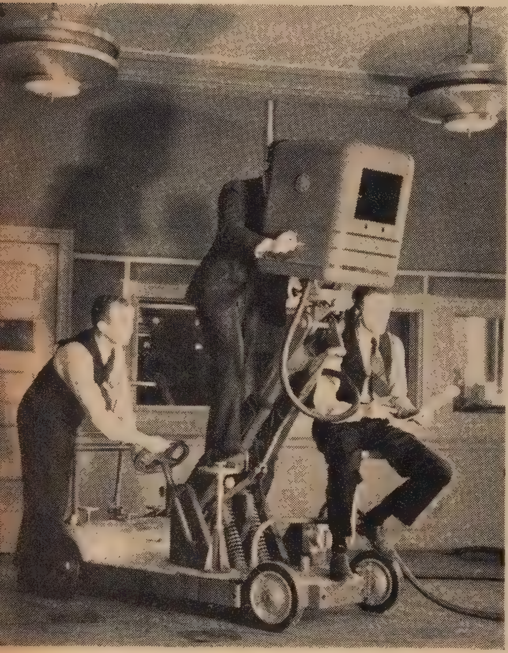


Control and shading desk with picture monitors, during television broadcast. Through polarized windows main studio is seen. Most of the action on the set is controlled from here.

The cameras are mounted on a mobile pedestal known as a "dolly." The dolly is the movable apparatus which allows the camera to move up on the action from, for example, a long-distance shot to one of closer proportions.

In the actual production of the television play, differing from aural broadcastings, the control room plays the major part. The men who sit in this room direct all activities. They are usually a producer, a technical director, and sound and image control engineers. They are able to communicate with some technicians and cameramen who are assigned to the set, to expedite and control the action on the studio floor or "stage." In this control room, too, are several picture tubes which reproduce the images being picked up by each of the cameras. One of these tubes shows the picture actually at that instant on the air, the other is a preview of the image which will later go on the air. In this way the director can edit or make a change in composition, angle, etc. up until such time as the picture is actually switched into the transmitting channel.

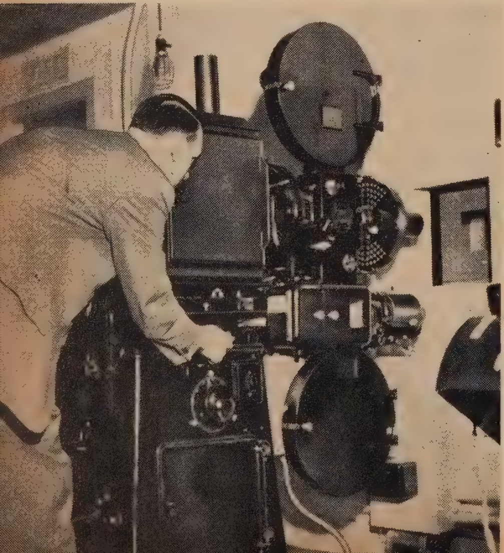
The men in the control room communicate with the men on the floor by means of headphones or private telephones and directions and instructions fly back and forth during the entire telecasting. When a light (usually a colored light) appears on the camera, this is an indication that the image in the camera is being reproduced for the audience. Background music and sound are monitored so that the correct effect for the image is reproduced. A microphone is swung on a long support or boom and is at all times kept out of sight of the camera.



Dolly-mounted televising camera, motor driven.

It is interesting to note how the monitoring board for the technicians works behind the glass panels. There are six images projected on one type of equipment, as shown in an accompanying photograph. On one screen is the test pattern, another reflecting camera 3, is the announcer who is always on the screen as long as he or she is in range of the cameras. This is done so that he can be summoned to talk at any given moment and to fill in with advertising or impromptu speech any gap between estimated and actual production time.

Projector for showing films to the audience.



The third screen indicates the slide which precedes the opening announcement—the station monogram. Camera 2 as seen on the fourth screen, indicates that everything is ready for action with the actors on the stage and the set in readiness, and camera 1 on the fifth screen picks up the program which will go on the air later. These control panels indicate that the picture being broadcast is quickly switched from camera to camera as the scene changes. The scenes being shot by the floor or projection room cameras as well as the picture being broadcast are displayed on the monitors in full view of the producer at all times. The producer talks to the camera men and instructs the positioning. Then, "Ready to take three" (this is camera 3) and a button is pushed and scene relayed as camera 3 flashes on the air.

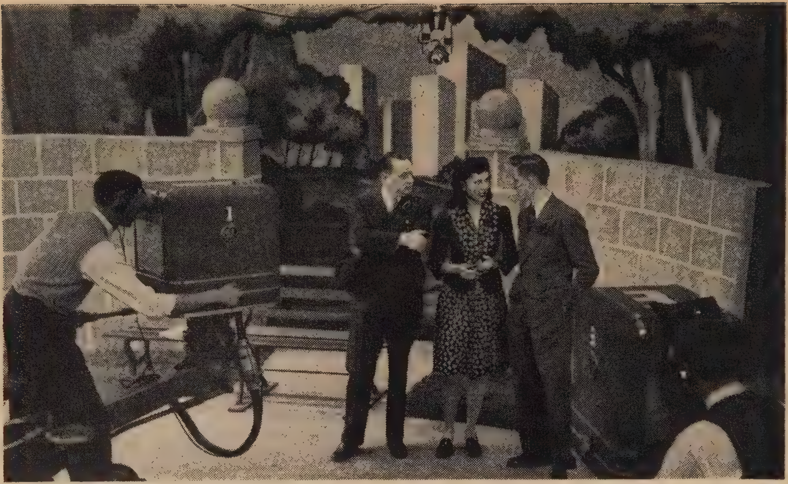
One of our illustrations shows a part of the projection room. This projection room photographs the test patterns, the slides for station and program identification, and, of course, is used when moving-picture films are telecast. The cameras here are movable but lock in position in front of the projector to assure proper focus and register for the picture being projected.

Lighting plays an important part in the mood which is conveyed to the audience. Bright, glaring lights were never conducive to tragic, low-voiced scenes, nor was dark, low-key lighting ever successful for gay, happy affairs. These moods can often be expressed by lighting effects before the actors ever speak a line to portray the action of the play.

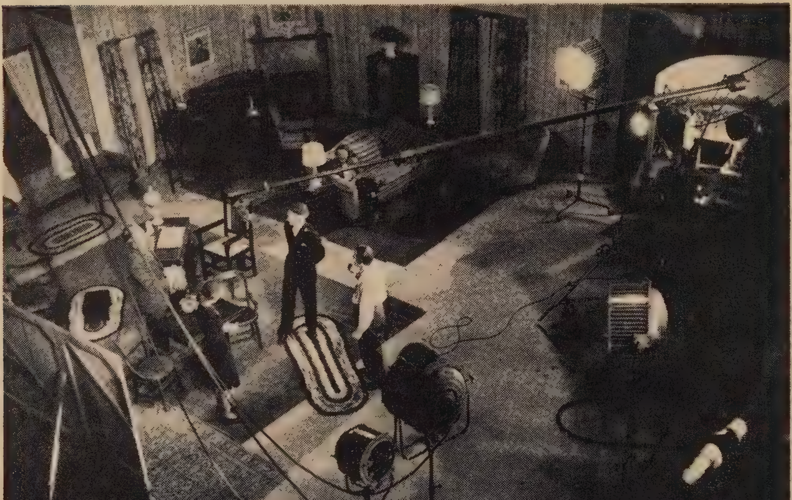
Model house which when picked up by the television camera appears to be life-size. Interesting effects are often obtained with models.

Superimposing one camera shot upon another is a favorite trick of television broadcasting. Let us say the script calls for a couple to meet in front of the Empire State Building. A picture of this building is projected, enlarged many times, on a back drop, and the actors walk in front of the projected picture. This action is then picked up by the television camera and an effect of meeting in front of the Empire State building is easily accomplished.

Tricky effects—or montage and ghost effects—are secured by two scenes being photographed by two cameras and transmitted into one channel. For instance, a soldier in a fox hole is thinking of his girl. One camera photographs the soldier and another camera picks up the girl. The girl's picture is superimposed upon the soldier's and a nebulous, ghost-like image



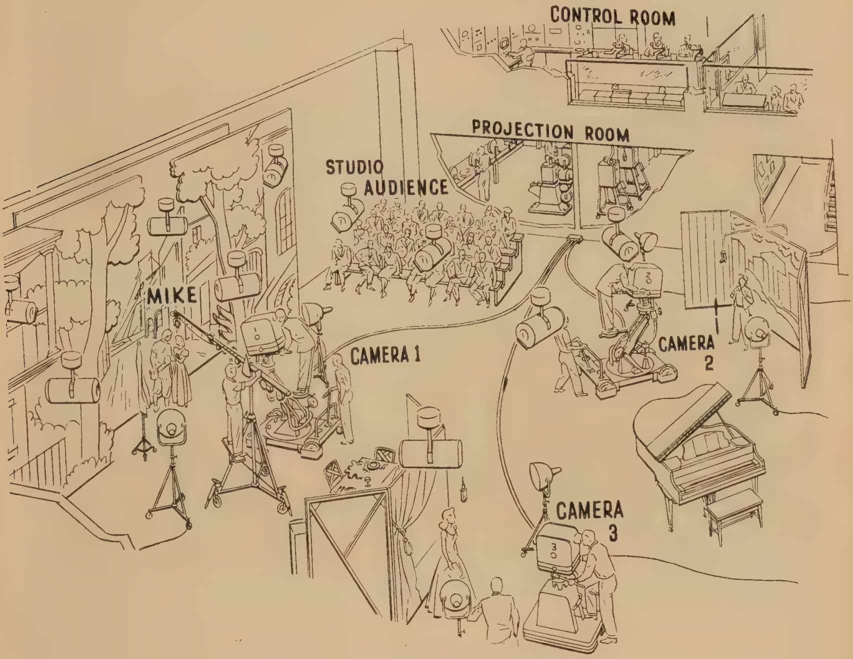
Scene from a playlet in which the scenery in back is painted flat. Wall is of corrugated cardboard, painted, and stone ball on column is a painted balloon.



Scene taken in Hollywood with Nigel Bruce and Otto Kruger. Note how action can be switched from room to room with this large overall set.

of the two may be transmitted. In this way too, an American flag can be superimposed over a mob scene, and many other unique pictures produced simply by this type of "mixing."

Scenery and the proper atmosphere is an important part of the job to be done. It is interesting to note that with miniature reproduction, the picture televised can seem actually life-like. For a news analysis program, a map of the Marshall islands was made by stretching plaster of Paris over wire molds of the islands and then painting them to resemble coral reefs. Small battleships, destroyers and planes were also used. The mountains around Cassino were represented by burlap stretched over corrugated cardboard molds.



Sketch of a typical television studio.

Out of corrugated cardboard and tracing paper, a striking glass church window was devised, which measured about five feet wide and ten feet high, and was used for a religious program. Another set called for a transparent frosted glass door with "Hand Laundry" lettered on it. One was contrived out of mosquito netting. Actual glass could not be used because of reflection in the camera from the powerful lights.

The ingenuity of the special effects department and the experience of the technical director and cameramen is the important element in reality of atmosphere. Many inexpensive effects can be accomplished with a little imagination.

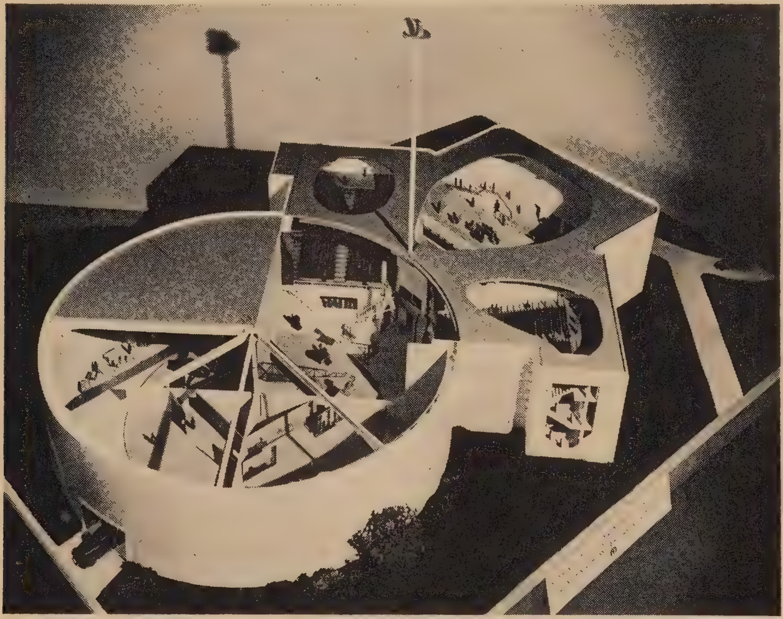
The actor, experienced in stage and screen work, after his first experience will have little difficulty in presenting a television play. The fact that there are no prompters, no cutting of scenes, no scripts, is not of utmost importance, because when he once knows his lines, he can devote himself to his acting performance, his motions, and staying within the camera's vision. Television brings a new technique which "when the advantages are considered," Earle Larrimore says in "We Present Television" by John Porterfield and Kay Reynolds, "we accept the new medium with enthusiasm and realize its full challenge."

"The greatest feature television offers the actor is his intimacy with his audience. Intimacy is, of course, the one quality that every actor strives for above all others. He wants you to feel that you are doing a bit of eavesdropping on the life of the character he is creating at a moment which puts that character to a crucial test. The more an actor can convey the impression that he is letting his audience in on a secret the more successful he is as an actor."

A mobile unit as it arrives "on location" to televise an important news story.

Concentrated action on the part of the performers is an actual necessity as it is impossible for an actor to walk up and down a room to indicate the extent of his bewilderment, anger or frustration. He must develop a technique of expressing himself in this limited space. When a script calls for a mob scene or the appearance of several people at one time, the cameras must be placed so that the sequence shots of two people coming in at a time will convey the feeling or idea required. Trick-angle shots, close-ups, and many other little tricks will bring out a point which is not necessary in other types of dramatic portrayals to heighten the clarity of the point to be made.

All of the previous discussion has taken into consideration, only those broadcasts which originate from the television studio itself. There has been and will be in the future many broadcasts which will be transmitted by means of the so-called mobile unit,—a special truck equipped with television cameras and pickup transmitters. When you see the World Series telecast, the teams will hardly be able to play in the studio, nor will the players be able to be rehearsed in their pitches and batting for a week previous to the game. The equipment necessary to bring the game into every home will include a portable special transmitter, and attendant equipment which can be incorporated into the traveling bus shown herewith. For baseball games, two cameras are usually considered necessary to properly transmit the entire action. Lighting by sunlight as is the case with most baseball games is considered adequate to give good images and distant views register with sufficient detail to enable the spectator to follow the game. The cameras are usually, in the case of a baseball game, connected to the mobile unit which houses the relaying equipment by cable. This mobile unit then relays the images to the main transmitter in the broadcasting station which in turn transmits it to the audience. There have been televised ball games in which the only announcer has been the regular sports announcer who announces for aural receivers, but oftentimes there has been a wide discrepancy between these announcements and the images shown. So that it is considered feasible to have a television announcer who relates only those incidents which he



Model studio planned to provide the utmost of convenience in scenery change, camera coverage and audience comfort.

considers the visual audience has missed. In this particular way, not too much talking has to be done.

Outdoor televising from mobile equipment has been successfully done in the past and such good images were received from one fire in New York City, that photographs of blazing buildings were sent and printed in the newspapers.

Since there are only a handful of commercially operated television broadcasting stations in operation today, much has been planned for building advanced designs in broadcasting studios with optimum ease and facility of operation. A turntable stage, new in television, but long accepted in movie and theatrical productions is considered as the easiest and most adaptable way of changing scenes and producing continuous, uninterrupted programs with great scenic value. Cameras, suspended from the air on flexible beams, cover every part of the stage from every angle. New and cool light sources avoid the intense heat which has frightened so many actors away from television performances, yet give highly desirable illumination. Audience seating areas are arranged with drop partitions so that when one audience is witnessing one program, a second audience invited for the succeeding program may take its seats without interrupting the program on the air. And between these audience areas, a central control booth makes it possible to handle continuous network broadcasting without interruption for changes of scene, audience, with a single set of cameras, controls, lights and other broadcasting equipment.

This design, together with many others which have not yet been made public, incorporate plans for the greatest of television entertainment to be provided with the utmost efficiency.

Television Receivers and Future Standards

How future improvements in standards of television transmission will affect older receivers. Postwar sets and standards to have long-range designing.

A great deal of public misunderstanding and possible television sales resistance has been created by stories in newspapers and elsewhere concerning the future effects of changing "standards" of television transmission. The prospective buyer is warned that future developments may render completely useless any receiver he buys now. The term "useless" is unqualified and the buyer or owner is led to believe that he would even be unable to give the set away.

First of all, what are "standards?" Standards for television pictures are the electrical rules by which the transmitter and receiver are to operate. These rules deal primarily with the number of lines or rows into which the scene is divided for transmission unit by unit. These standards also specify the number of frames or pictures sent each second, also the detail of the so-called synchronizing pulses which "lock" the receivers in the homes to the transmitter. Other factors included in the standards involve the width of the band of frequencies which the set must receive, however, this is related to the number of lines and frames. The changing of these standards is primarily one of altering the number of lines in the television image and consequently the width of the band to be received. The number of lines in the television image has a bearing on the "definition" or picture clarity. Increasing the number of lines increases the picture clarity but not in the same ratio.

What is the effect of a change of this kind on the receiver in the home of John Q?

A television receiver of the present type is an instrument of many parts; twenty some odd tubes, many coils, capacitors and resistors. These parts, the same that are in any radio, can be interconnected to produce a television set, a door opener, a hearing aid or any other electronic device. A change in standards cannot make obsolete these parts. A standards change may require a change in their arrangement or the substitution of others of different values, however, let's look at the record.

In 1939 the television sets made available to the public were operated on a 441-line 30 frames per second picture standard. These values were not "pulled out of a hat," but were the result of long study of our own requirements and of the experience in Europe, where a 405-line picture was common.

About the time television got started recommendations were made to change standards to allow for future development. The changes ultimately sanctioned consisted of a picture standard of 525 lines and the use of frequency modulation in place of amplitude modulation for the sound which accompanies the picture. How did these new standards affect the more than 5000 television sets then in use? Many set owners were not aware that a change had taken place. The average owner who turned on his set the day the transmitters started on the new standards probably decided Junior had disturbed the horizontal speed knob and he proceeded to adjust it to get the picture. That was the effect of this change of more than 25% in the number of picture lines.

A television receiver can be divided into several groups of equipment. There are, in all present receivers, (1) the radio-frequency or station-selecting circuits, (2) the intermediate frequency amplifiers for sound and for picture signals, (3) detectors (rectifiers) for sound and picture signals, (4) audio amplifiers, (5) video amplifiers, (6) synchronizing pulse separating and amplifying circuits, (7) horizontal and vertical deflection circuits, (8) power supplies for low voltage tubes and for picture tube.

Standards of television transmission if changed, will not affect all these units. If the changes in standards are only an increase in the number of scanning lines, little or no adjustment is required since the horizontal and vertical deflection circuits have considerable control range. If the change is one of shifting the television stations to a new section of the radio spectrum, the radio frequency or station selection circuits will have to be altered. If new standards call for wider bands for each station, a wider separation between the sound and picture intermediate frequencies is necessary. These changes in frequency assignments and band width requirements are more complex and the receiver changes will depend on the extent of the change in the standards.

What about color television? When color systems are developed and become commercially practical as they ultimately will, they will not make obsolete a standard "black and white" set. These sets will receive such a transmission giving a regular black and white image. Even here, it is entirely possible that an adapter unit may be made to produce colored images from a standard set.

In the majority of cases, any future change in standards of television transmission will affect receivers in proportion to the change. Assuming that adequate channels are assigned before television sets are again made available, future improvements will probably be within the adjustment range of receivers built after the war. At least, it will be possible to modernize the sets, when and if standards are changed, to perform as well as they did on the older standards.

There is no reason to hold up the growth of commercial television on the assumption that future developments, which will certainly come, will make entirely useless the sets which the public wants. Any device including a television receiver can be adjusted to work under almost any set of conditions. It is impossible to forsee all the advances engineering will make in the television science in years to come. To wait for something, the nature of which is not known, becomes an endless cycle.

Television receivers, like radio sets can be altered to fit future standards to meet the needs of the public—and undoubtedly will be.

Where Television Really Went to Town

A drive for sales of television receivers was staged in Newburgh, N. Y., 60 miles from the nearest video transmitter, with surprising results. 400 sets makes the city "Televisionville, U. S. A."

If dealers have (1) good television merchandise, and (2) attractive prices to offer the customer, and if there is (3) reasonably good television reception within their trading area, they can sell television in a big way.

The city of Newburgh, New York, proves this to be true.

Newburgh is a typical American city of 33,000 population. Its potential selling territory embraces an area of about 25 miles, and includes approximately 93,000 people.

The city, by all comparisons, is "typical" and "average." It is neither very rich nor very poor. Within the city limits of Newburgh are about 750 retail stores, doing an annual business of about twenty million dollars. The whole nearby trading area is well outside of the New York City commuting zone, so that local merchandise is not affected by the metropolitan market.

Being sixty miles north of New York City's television transmitters, Newburgh, whose highest altitude is 275 feet, was certainly not situated to get the best in video reception. Hence, when a large manufacturing company decided to make Newburgh its television "guinea pig," the purpose was to find out whether set owners would be satisfied with fair reception—and also whether a concentrated drive for television sales would be successful.

In the fall of 1939, the Radio Corporation of America, after an extensive community survey, decided to try out television on Newburgh, and so launched an all-out campaign. For this area, 12-inch sets were reduced from six hundred dollars to three hundred and ninety-five dollars and 9-in. receivers were dropped from three hundred and ninety-five dollars to two hundred and ninety-five dollars.

Under the personal direction of company officials, every effort was made to promote the sale of sets. Salesmen schools were instituted and were run for six months during the campaign. Local radio-station time was used to plug the sale of sets, and dealers cooperated with RCA in newspaper, leaflet and window display advertising.

The campaign was a great success. Its result was to put Newburgh in the category of having more television sets in proportion to population than any other place on earth. In fact, there are ten times as many sets per capita in this little city than there are in New York or Los Angeles.

Today, it is estimated that there are four hundred telesets in the Newburgh area, and the territory has taken television to its heart. The sets are standing up well, and everyone is happy. During the campaign itself, about two hundred receivers were sold, but dealers continued doing good teleset business after the campaign had ended.

The dealers in Newburgh found that the telesets went over big with fellow storekeepers, taverns, lunchrooms, etc., and that this business was exceptionally welcome since most of it was done on a cash basis. The receivers in public places all over the city served to keep up a continued interest in television; drew crowds to the stores and other public places, and took business away from establishments not video equipped.

In its issue of September 28, 1940, the Saturday Evening Post carried a feature article on Newburgh and its television activities, by Alva Johnston. To present the Newburgh television situation as pictured by a skilled observer, let's quote a few paragraphs.

"Newburgh is a beautiful old town of some 30,000 inhabitants on the west bank of the Hudson, about sixty miles north of New York City. During the last stage of the Revolutionary War, George Washington made his headquarters there at the Hasbrouck House, which is now a museum.

"Like most places of its size, Newburgh has enough horse players to support a few bookmakers. Shortly after the opening at Belmont Park this year, two of the bookmakers were cleaned out. On Wednesdays and Saturdays a group of Newburghers had become infallible in picking winners.

"One possessor of the 100-per-cent-perfect system of beating the races was too honest to use it. This sainted character is John Guzorsky, proprietor of Your Lunch, at 375 Broadway, Newburgh. He called up a friend in the bookmaking line six times one afternoon, placed bets on the winner each time and then refunded the money. Asked to explain his system, Guzorsky answered in one word 'Television.'

"There are television sets in Your Lunch and other cafes in Newburgh. Races were televised on Wednesdays and Saturdays. The spectators at a television set saw the horses first in the paddock, with the radio comment of Clem McCarthy, sports commentator, then the finish of each race, less than a thousandth part of a second after the event. The bookmakers, on the other hand, had to wait until the judges had put up the numbers of the first three horses and these numbers were relayed to a broadcasting station to be put on the air. This intelligence has been greatly slowed up by the Federal Government's current war on the racing-news syndicates. The televiewers had a minute or perhaps several in which to telephone their bets or to run with them to a near-by bookie's hide-out.

"This happened in Newburgh because Newburgh is the Televisionville of America. There are more television sets there in proportion to population than anywhere else on earth. They are ten times as thick in Newburgh as in Los Angeles or New York, while most of America has no sets at all.

"The Radio Corporation attempted to launch television at the World's Fair in New York, in 1939. The public was delighted on the first day when live talent—flesh-and-blood celebrities—appeared and talked by television. The second-day crowds were annoyed and repelled by ancient newsreel stuff such as Sponge Fishing in Florida, which nearly everybody would give twenty-five or thirty cents not to know about.

"Only a few dozen sets were sold during the first season of the fair. However, rapid progress was made in programs and in the technical quality of television. David Sarnoff, president of RCA, decided last fall that television was ready for a trial on a typical town within range of the RCA television transmitting station on top of the Empire State Building. Newburgh was chosen because it was not very big and not very small, not very rich and not very poor. It was also chosen because it was too far from the Empire State Building to get television reception of the best quality. The aim was to discover whether an average community would be pleased with television of average quality. The campaign was a success. Nearly 200 sets were sold in the Newburgh area. Newburgh loves television.

"You can take my wife or my automobile, but not my television set, said one Newburgher."

* * *

"The television set is a little theater housed in a piece of furniture. The stage, or viewing screen, may be seven and one half by ten inches or even less, but the human eye is adaptable and rapidly falls under the delusion that it is seeing life-size action. Strangely enough, that branch of the theater which is contributing most to the popularity of television today is wrestling. Television is so good today that it registers every expression on the faces of the catch-as-catch-can tragedians. Every moan and every howl is reproduced. The modern television receiver includes one of the finest radio sets on the market.

"Prize fighting had previously been the mother of arts. It did more than anything else to establish the movies, radio and English television. Forty-five years ago, the future of the cinema suddenly became assured when thousands of opera houses, barns and tents throughout the country rang with cheers at the first motion-picture prize fight—a four-round bout between James J. Corbett and a forgotten battler named Courtney. Broadcasting was put on its feet commercially in 1921 by the rush to pay $300 a set for earphone receivers when the Dempsey-Carpentier fight was put on the air by what was then known as 'wireless telephony.' A year and a half ago, Londoners paid a guinea a ticket to see a prize fight in theaters equipped with large television screens. What television needs today is another Dempsey.

"The sky line of Newburgh has been changed by television. Tourists stop their cars to gaze at what appear to be newfangled lightning rods. These are the television antennae. They look like steelhandled, two-pronged pitchforks and rise twenty feet or more above the roofs of buildings. In the early days of television at Newburgh, some people were under the impression that the television pictures appeared on the antennae, and groups sometimes stood gazing at the steel apparatus and waiting for the show; just as people a few generations ago used to watch the telegraph wires in the expectation of seeing the messages. Others labored under the delusion that the owner of a television set could tune in on any event in any part of the world, and were surprised to learn that television at Newburgh is limited at present to about two hours of entertainment broadcast daily from the top of the world's highest building.

"A year ago it was supposed that not more than six or eight people could enjoy television pictures on a screen seven and one half by ten inches. More than fifty people, cheering, booing, shouting advice, have watched wrestling matches and prize fights on screens that size in Newburgh. John J. McDermott who has a place at 200 Ann Street, Newburgh, reports that more than thirty people have turned out to see a basketball game on a small television set which has a screen approximately six by eight inches.

"Some of the menaces of television to the housewife were described by Mrs. J. E. McGrath, of 283 Powell Avenue, Newburgh. In the first place, it is becoming impossible, she said, to handle the crowds of callers on the nights of good television shows, without erecting bleachers in the living room. The McGrath residence is set back about twenty feet from the sidewalk, and on wrestling nights groups gather on the sidewalk and watch the show through the parlor window. Two relatives making an automobile tour dropped in on the McGraths for a one-day visit. After seeing television, they stayed five days to avoid missing a scheduled night of wrestling. One of the televiewers at the McGrath residence was Chairman James Lawrence Fly, of the Federal Communications Commission.

"'He saw a wrestling match,' said Mrs. McGrath, 'and said,—'This is better than a ringside seat!' The man who was with him tied himself up in knots and twisted himself all around, as if he were wrestling himself, while he watched the show.'"

* * *

"Frank R. Dutcher, of Balmville Road, Newburgh, has a small television set which packs them in regularly. The capacity of his cottage is thirty people, which includes standees in the kitchen, from which the television screen is visible. He has had to ‘turn ’em away’ twice: once on a wrestling night and once when his daughter, Helen Dutcher, took part in a television spelling match.

“The Dutchers, bought their television set chiefly for the benefit of Mrs. Dutcher’s father, who is seventy-nine years old and in feeble health. In spite of failing eyes, television, he says, is the greatest enjoyment of his life and brings him glimpses of an unknown world.”

Installation and Maintenance of Television Sets

Data on installation methods. Typical antenna systems. Preparing for television service. Important qualifications needed by television servicemen in this expanding field.

The success of a television receiver sale will depend to a large extent, if not entirely, on the care with which the instrument is installed and the time spent in explaining its operation to the new owner. Television receivers are not "package items" in the sense that they can be wrapped up and taken home and plugged in for perfect reception. As with any radio, where best results are required, the set requires a good outdoor antenna and an adequate ground.

Most sales of television receivers will be through the recommendations of satisfied customers. They are your best salesmen. The public does not judge television by the merits of the receiver alone, but rather by the performance of the entire system. A poor installation will nullify the performance of the finest set.

It is important to remember that the eye is far more critical as a judge of quality than the ear. "Ghosts," echoes, and distortions are present in all radio transmission but in sound transmission these defects are ignored by the ear.

Television transmitters at the present time are operating on extremely low power as compared to broadcast stations. One station in California is covering the Hollywood area with a 600-watt transmitter and doing an excellent job. Stations with 6 kilowatts, approximately one-tenth of the power of many broadcast stations, are serving the same size area with good results. As the power is increased in postwar stations television reception will improve and probably, less exacting antenna systems will be required.

The wide range of frequencies used for television calls for considerable care in installing the antenna system. Each television station, under the present standards, requires the antenna and lead-in cable to handle without discrimination, a band of frequencies approximately 6 megacycles wide. This is more than six times the width of the entire broadcast band and when it is recalled that antennas respond best to their natural or resonant frequency, it is seen that care must be used or the antenna system will eliminate or greatly reduce the signals whose frequencies are widely separated from the natural resonant frequency of the antenna.

The higher frequencies (50 to 200 mc) which are now being used for television also impose new requirements. Insulation which is more than adequate at broadcast band frequencies may be entirely unsuited in this region. This is particularly true of insulation for coils, lead-in cable and other similar parts.

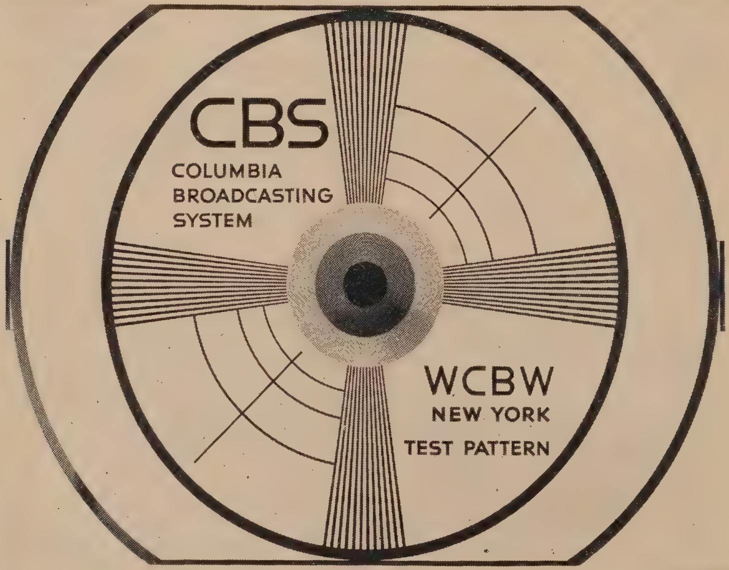


Fig. 1.—A test pattern of the type transmitted by most television stations for checking performance of receivers and transmitters. Receiver troubles, "ghosts" and other conditions are recognized by their characteristic effect on this pattern.

Radio signals are reflected by many surfaces and in the case of television these reflected signals may cause "ghost" pictures. These ghosts are the result of the antenna at the receiver picking up one or more signals beside the main one along the direct line between transmitter and receiver. The extra distance traveled by the signal which reflects off of a nearby building, hill, or other structure will produce a second picture displaced on the television screen toward the right approximately 1 inch for every mile difference in the path traveled by the signals. This rule is based on a picture approximately 10 in. wide. These ghosts, which might be compared with double exposures on film, are far more annoying than the reflections which exist on a sound channel. In any radio broadcast reflections are taking place but the ear does not respond to the "ghost" sounds. In television, however, this problem of multiple pictures is a serious one in some installations. A test pattern similar to Fig. 1 is used by television stations to permit adjustment of equipment.

The problem of ghost pictures is most pronounced in those locations where the antenna or the receiver is more or less completely shielded by buildings, hills, or other obstructions, from the transmitter antenna. In these locations a direct line of sight signal is prevented and the receiver must operate on the signal reflected from other objects. Where ghost pictures are observed they are usually caused by some reflecting surface within a radius of one-eighth of a mile to about one mile. The strength of the ghost picture depends a great deal on the type of reflecting surface and for distances greater than one mile the ghosts are usually weak enough to be negligible. A typical plan view of an installation producing ghosts is shown in Fig. 2. The reflecting object B may be a building, bridge or other structure acting as a "mirror" to the television signals. The strength of the ghost will probably vary in wet and dry weather.

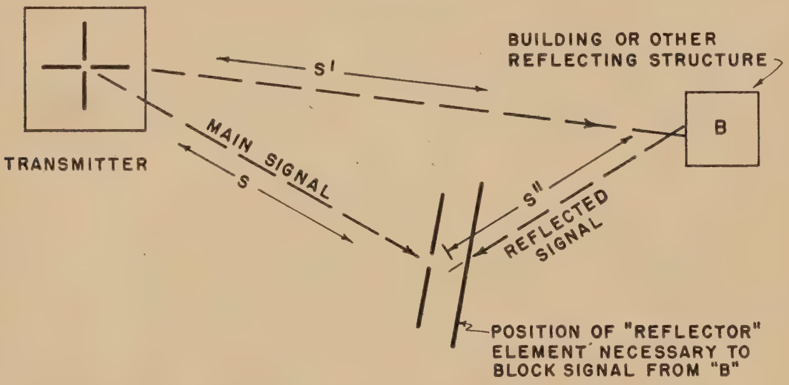

BUILDING OR OTHER REFLECTING STRUCTURE
S'
B
TRANSMITTER
MAIN SIGNAL
S
S''
REFLECTED SIGNAL
POSITION OF "REFLECTOR" ELEMENT NECESSARY TO BLOCK SIGNAL FROM "B"

Fig. 2.—One arrangement of conditions which would produce reflections and "ghosts." The reflecting surface, as building B, must usually be as high or higher than receiving antenna to give trouble.

The technique of eliminating the problem of ghosts is based on the following principles: Locate the source of the major reflection, if there are more than one. In most cases this will be very obviously a large building or other nearby structure. By observing the pattern on the screen and using the rule above, it will be possible to estimate closely its location. After the source of reflection is located, it is necessary to block the reflected signal by means of additional elements on the antenna known as reflectors.

The object causing reflection of the television signal may be located at any point on an ellipse formed about the transmitter and receiver locations as foci. This is shown in Fig. 3.

In order to determine the object or objects producing a given ghost, measure the distance from the main image to the ghost pattern on the cathode ray screen and let this distance be G inches. The extra distance 2X, over which the signal is traveling can be determined from the following relationship.

$$\frac{G}{W} \times 11.7 \text{ miles} = 2X$$

where W is width of picture in inches plus 15%.

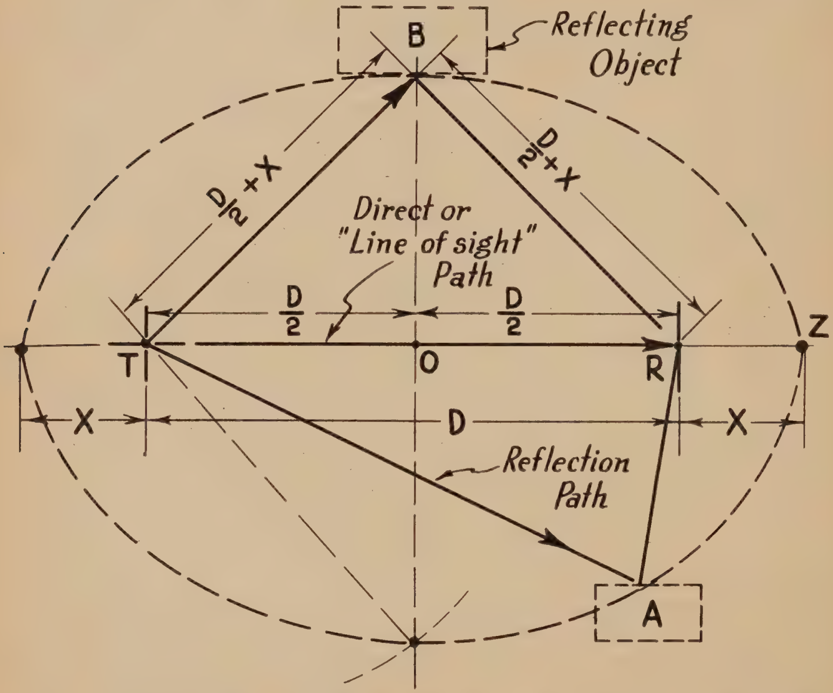
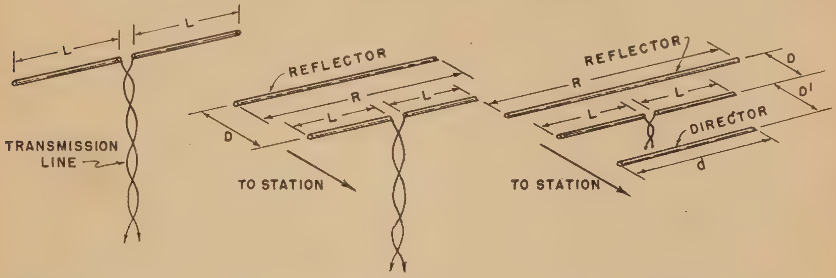


Fig. 3.—Graphical method of determining position of reflecting surface causing "ghosts." Each "ghost" picture is produced by a reflecting surface which can be anywhere along an elliptical path determined by the position of the "ghost" picture from the main image. Reflecting surface need not be tangent to ellipse.

Referring to Fig. 3, a reflecting surface might be located directly back of the receiving antenna as at some point Z. In this case the signal would travel from the transmitter, T, to the receiver, R, a distance of D plus twice the distance X. This distance X is one-half of the value as calculated above from the original ghost pattern. If an ellipse is described through the point Z with T and R as foci, reflections producing the observed ghost can take place from any point on this ellipse, as for example a building at B or A.

In order to locate the source of reflection by this method, use a map of the area surrounding the transmitter and receiver and place pins at the transmitter antenna and receiver antenna locations. With a loop of string placed over the pins of such a length that a pencil placed in the loop will pass through the point Z, draw the ellipse. The minor axis can also be determined by drawing a line perpendicular to the line between T and R as at O. With a drafting compass and either T or R as a center, swing an arc with a radius of $D/2 + X$. Where this arc crosses the perpendicular is the minor axis ordinant and a point through which the ellipse passes.



SIMPLE DIPOLE   DIPOLE AND REFLECTOR   DIPOLE, REFLECTOR AND DIRECTOR

Fig. 4.—Basic parts of parasitic antenna arrays. Dimensions in inches are determined by following where f is operating frequency in megacycles.

$$L\ (\text{inches}) = \frac{2850}{f\ (\text{megacycles})} \qquad R\ (\text{inches}) = \frac{6000}{f\ (\text{MC})}$$

$$d\ (\text{inches}) = \frac{5400}{f\ (\text{MC})} \qquad D\ (\text{inches}) = \frac{1770}{f\ (\text{MC})}$$

$$D'\ (\text{inches}) = \frac{1300}{f\ (\text{MC})}$$

Reflecting objects located near the transmitter are more difficult to eliminate by means of directional receiving antennas since the angle between the desired direction and the undesired reflection is small. However, when the reflecting surface is near the receiver as at A in Fig. 3, the directional characteristics of the receiving antenna are usually adequate and will separate the desired signal from the undesired.

The best type of antenna for television is some form of the so-called dipole. This antenna, shown in its basic form in Fig. 4, is a center or current-fed half-wavelength type common to radio amateurs and transmitting station operators.

Because of the short wavelength at television frequencies (5 to 18 feet) it is convenient to build the half-wavelength antenna from two quarter-wavelength long rods or tubes. The unit is stiff enough to allow single point support at the center.

Additional elements in the form of reflectors and directors can be added to the basic dipole to give special directional characteristics. The reflector and director elements are also shown in Fig. 4. These elements are not connected to the basic dipole but operate through induced currents. They are called parasitic elements and are one piece, not insulated at the center. The principal pickup patterns for the plain dipole, and the reflector director-combinations are shown in Fig. 5.

Other antenna systems are also in use where special directional characteristics are required. In general, the more directional the pickup pattern of the antenna is, the more elaborate it must be.

The dipole antenna requires a two conductor lead-in cable because the antenna is a current operated device rather than voltage operated (the common single-wire aerials). The cable should be designed for television or similar high frequency use and each conductor should have the same capacitance to ground. This means that twisted pair or balanced coaxial (twin coaxial) cable should be used. Single coaxial cable will not give as good results in conditions where noise is severe unless special RF transformers are used at the antenna and receiver.

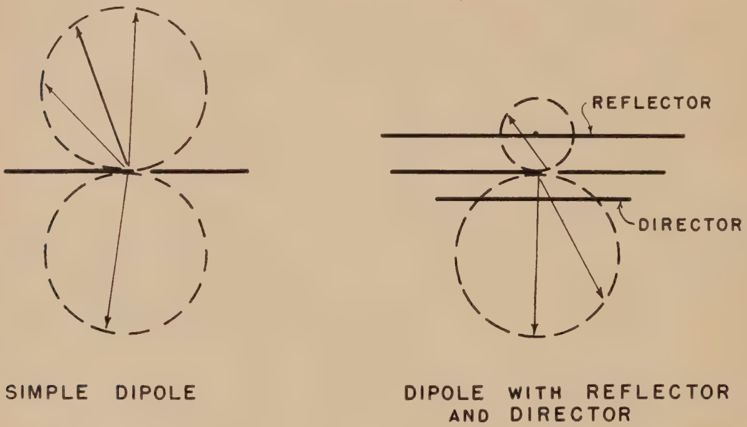


Fig. 5.—General form of pickup patterns of simple horizontal dipoles and reflector director combinations. Length of arrow indicates relative sensitivity of antenna at various directions.

Double lightning arresters (one for each lead-in conductor) should be used. Follow local wiring code for details.

The reflection problem in Fig. 2 can be solved by placing a reflector between the dipole and the building B.

As long as all stations to be received are in the same general direction from the receiving location, the problem of reflections from behind the antenna are usually easily solved by a reflector element added to reduce the pickup from the undesirable direction. Where stations to be received are not in the same general direction from the receiver location, it may be necessary to resort to two or more separate dipoles and reflectors. The separate antennas can usually be connected into a mixing transformer and the same lead-in cable used without switching.

A good "ground" should always be used on television receivers. It will improve performance and is a safety measure.

The high frequencies used in television have some of the characteristics of light waves. The waves tend to travel in straight lines and will bend only slightly. This characteristic leads to the "line of sight" phrase applied to television. In general, the high frequency waves (50 megacycles and up) will travel to the horizon. The higher the transmitting antenna, the greater the range of the station. Elevation of the receiving antenna is also important. The total line of sight distance between two antennas can be calculated by Fig. 6.

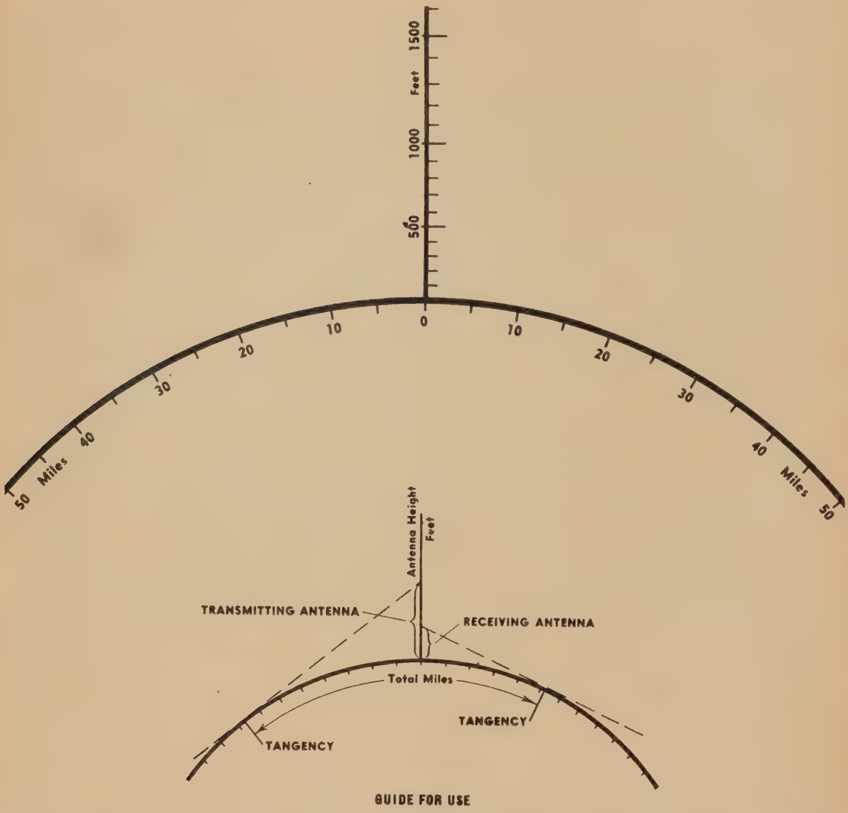


Fig. 6.—Chart for determining line of sight distance between receiver and transmitter when height of both antennas is known.

Television signals are being received satisfactorily beyond the horizon limit in many cases. With transmitting antennas located on tall buildings or nearby mountains, an area with a 40 to 50 mile radius can be easily served.

Much stricter requirements are imposed by television. The receiver is a more complex device than the conventional home radio. However, it is a stable unit requiring little service attention. An actual survey of more than 5,000 sets, which were in almost continuous use for a period of four to five years, reveals that over 80% were in "good" or "excellent" operating condition. These sets had received little or no servicing and were operating on the original tubes, since war restrictions prevented their availability to the public.

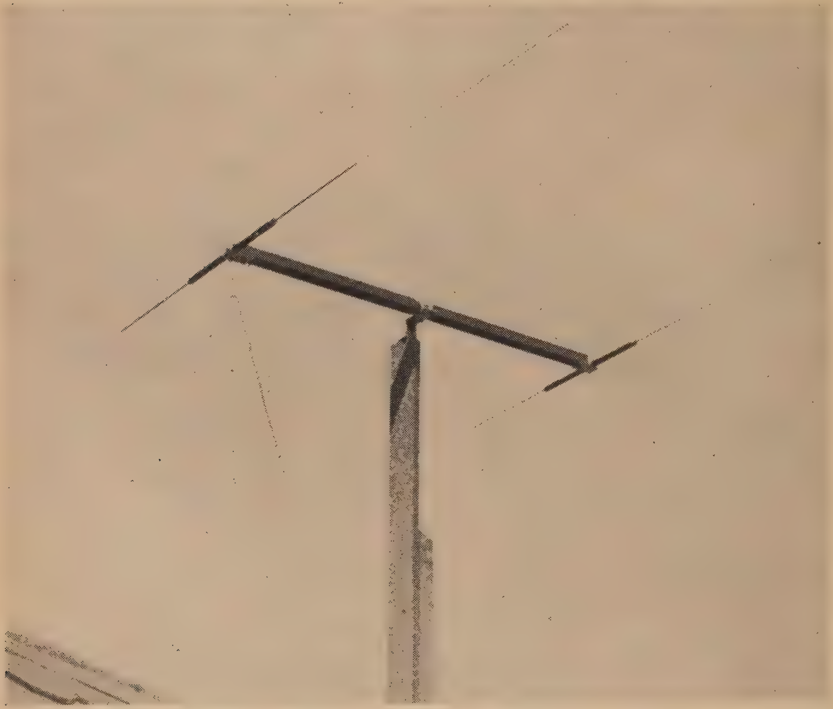


Fig. 7.—Photo of typical dipole antenna with reflector as used in a television installation.

The television set is similar in many respects to conventional broadcast receivers. They do, however, have a number of circuits associated with the cathode ray tube which are not familiar in many cases to the average service man. The television receiver is a superheterodyne standard in all respects, except for the wider band width, up to the second detector. From this point on there are sweep circuits to give the line structure on the cathode ray tube, circuits for separating the synchronizing impulses from the video signal to control the sweep circuits and a high voltage power supply to operate the picture tube. These latter circuits are not complicated or difficult to understand and have been used individually for various purposes for a number of years.

Television sets at present are physically larger than most console radios. They are now constructed on two or more separate chassis. The entire set has a large number of tubes (approximately 25). However, only a few of them function in circuits not already familiar to the average service man.

Servicing of television receivers will require a high type of individual who is technically capable. The man must be careful and neat in his work for two important reasons. First, voltages from 2,000 to 15,000 will be encountered in television equipment. While the current is limited, nevertheless a dangerous shock is possible for any who are not careful and fully acquainted with what they are doing. The second important reason for care in service work is the higher range of frequencies used for television. The tuned circuits and other parts in the high frequency portions in the set are physically small and their positions with respect to each other are far more critical than in broadcast equipment. Resistors and capacitors and other parts installed in the high frequency portions must be replaced in their exact original positions and with the length of the leads carefully observed. A sloppy job of soldering and installation of parts will result in very poor or no operation of the set.

Fig. 8.—Servicemen learn details of circuit operation of television sets from talks by engineers from set manufacturers. Photo shows the Andrea course conducted by the company's chief engineer.

Television receivers must be carefully aligned for proper operation. Four stages of intermediate frequency amplification are common in present sets. The coupling circuits are very stable. However, when readjustment is necessary a quality signal generator and an oscillograph are necessary pieces of equipment.

Service personnel must be reliable since more expensive equipment is involved and more care is required in handling the picture tube and other apparatus.

Men most suited for television service work are those who are familiar with high frequency radio apparatus and cathode ray tube equipment. Men trained by the army and navy who operate radar and similar equipment have an ideal background for television. Service men who are now active and wish to grow along with television should begin to analyze the circuits, antennas and other features of cathode ray television. A number of books and publications are available to answer all questions on the technical features of modern television. It is important that the dealer give considerable thought to the selection and training of men for servicing television. Many organizations can begin now by devoting a few hours each week to discussion of the technical phases of television. Many colleges throughout the country are giving free courses in the evening in ultra high frequency systems and other electronic and radio subjects. These courses offer an excellent opportunity for qualified men to become acquainted with modern techniques and prepare for the expanding and profitable field of television.

Now Let's Get Technical

How television works. Cameras—transmitters—picture tubes—receivers—synchronizing—blanking—sweep circuits—power supplies. Function of stages in typical receiver.

Modern cathode-ray television is an intricate system when viewed from the equipment standpoint; however the operation of this system is relatively simple. Television is an electrical, or combination electrical-and-electronic system of transmitting any picture or scene.

Basically, a television system is composed of some pickup device similar to the photographic camera, a transmission system (either radio or appropriate cable network), and a reproducing system or receiver. A system for keeping the receiver and pickup or camera unit operating in conjunction with each other is also necessary because of the method by which the scene is transmitted.

In order to transmit information by electric currents and also radio signals, it is necessary to convert the information to be sent into some characteristic of the electrical current. For example, it would be possible to transmit "yes" and "no" over a simple electrical network by representing "yes" with a 400 cycle tone and "no" with an 800 cycle tone. A similar scheme could be worked out in which "yes" was represented by a current of one ampere and "no" by a current of two amperes. The former scheme would correspond to a modulation or variation of the frequency of a system. The latter is an amplitude-modulation system. In television, as in sound broadcasting, the information to be transmitted is converted into either a frequency variation or an amplitude variation of some electrical current. In order to transmit a picture (without regard to color) it becomes necessary to analyze very small areas of the scene and electrically represent the relative black to white shade of that area. Any black and white photograph is a complex arrangement of black and white and intermediate gray tones. The human eye has the ability to view an entire scene at once and does not have to analyze a picture area by area in order to get a total result.

In television, however, or any other system in which shades of black and white are represented by frequency or amplitude of some electric current, the system cannot reproduce large areas simultaneously since the frequency or amplitude of the entire scene would merely be some average shade for the picture. Thus, in the present system of television it is necessary to scan the scene in regular parallel rows from top to bottom and by this method determine the shade of each tiny area and transmit the electrical signal which represents that information to the receiver. At the receiver, the electrical signal which represents the shade of the light at each point in the original scene is used to control a beam of cathode rays which, as it strikes a fluorescent screen, produces a spot of light of the same relative intensity as that particular portion of the original scene. The process of television then is one of analyzing the intensity of light from many thousands of individual areas of the original scene, transmitting this information to the receiver and converting these electrical impulses back into spots of light in the same relative position on the screen.

In the present system, each picture is divided into approximately 300,000 elements of area and each of these elements is analyzed by a television camera as to the intensity of light at that point and this information is sent along to the receiver in regular orderly fashion starting at the upper left hand corner of any scene and moving horizontally to the right, then returning to another row just beneath the first, in the same manner that one reads this printed page.

At the transmitter, the camera is basically a special type of cathode ray tube in which a light sensitive surface called a "mosaic" is used. This mosaic is a specially treated plate containing many hundreds or thousands of light-sensitive areas similar to microscopic photoelectric tubes. These many photoelectric areas on the mosaic are insulated from each other by the process with which the mosaic is made and thus each is able to develop an electric current proportional to the light falling on it. The mosaic screen in the camera tube thus breaks down the scene focused on it by appropriate lenses into many hundreds of thousands of electric currents, the intensity of which represents the intensity of light at every point. This mosaic is scanned in the regular way as mentioned above by a beam of cathode rays which acts to recharge the microscopic photoelectric areas as it passes over them. This permits the current to flow from them which represents the light intensity of the original picture at that point. This scanning of the mosaic surface is repeated 60 times each second and in the present standards, there are 525 "lines" or rows from the top of the picture to the bottom of the picture which are scanned. The electron beam moves from the left side of the picture on the mosaic to the right side in approximately 1/16,000th second. The cathode ray beam scans the odd-numbered rows in 1/60th second and the even numbered rows in the next 1/60th second. This principle of scanning is called interlacing and results in less flicker in the final reproduced image. In this so-called double interlaced system 60 fields of 262½ lines are sent each second for a total of thirty 525-line frames or complete pictures each second. The rapid scanning is necessary in order to take care of moving objects in the original scene. In motion picture projection, 24 frames are shown each second in order to give the impression of motion. In television 30 frames are shown each second for the same reason. In both cases the persistence of vision prevents the eye from seeing each, individual frame.

The electric currents produced by the camera tube are suitably amplified and used to modulate a transmitter in exactly the same manner that the output of a microphone is similarly connected in sound broadcasting.

At the receiver, the modulated high frequency radio carrier is received, amplified and detected (rectified) and the resulting current is one which is proportional at all times to that developed by the camera tube at the transmitter. This current, which is called the video signal, is applied to the grid of a cathode ray picture tube. The beam of cathode rays in this tube is moved in exactly the same manner, that is, from left-to-right and from top-to-bottom as you read a book, in exact synchronism with the cathode ray beam in the camera tube. As this beam is moved rapidly back and forth across the fluorescent screen it produces what appears to be a large number of white lines on a dark background. The video signal previously mentioned controls the intensity of the cathode ray beam as it moves over the screen and in this manner causes white, black and gray shades to appear exactly as they are in the original scene at the studio.

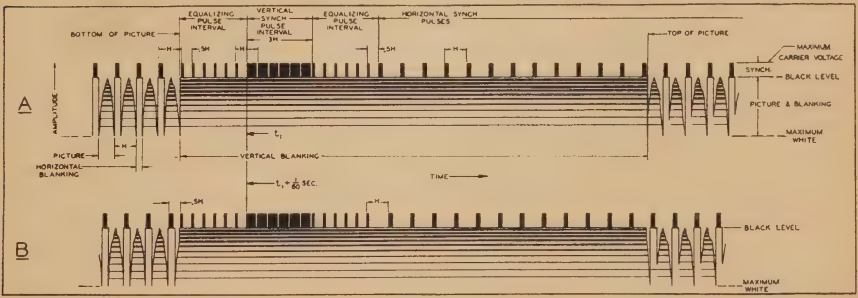

EQUALIZING PULSE INTERVAL
VERTICAL SYNCH PULSE INTERVAL
3H
EQUALIZING PULSE INTERVAL
HORIZONTAL SYNCH PULSES
BOTTOM OF PICTURE
TOP OF PICTURE
H
.5H
H
.5H
H
MAXIMUM CARRIER VOLTAGE
SYNCH.
BLACK LEVEL
PICTURE & BLANKING
MAXIMUM WHITE
A
AMPLITUDE
t_1
H
PICTURE
HORIZONTAL BLANKING
VERTICAL BLANKING
$t_1 + \frac{1}{60}$ SEC.
TIME
.5H
H
B
BLACK LEVEL
MAXIMUM WHITE

Fig. 1.—A drawing of the amplitude of a television signal during about 1/60 sec. Only one side of the modulation envelope is shown. Section A is the first field and B is the succeeding field. The shading lines indicate the relative brightness of each amplitude.

The scanning process of the transmitter and the receiver are kept in exact synchronism by so-called synchronizing pulses. These synchronizing pulses are transmitted along with the picture and are used by the receiver to start the scanning at the beginning of each line and each field.

In this country an increase in the power radiated by the transmitter during modulation corresponds to a black area in the picture. This is called negative transmission. In the negative system of transmission a maximum white area in a picture is represented by minimum radiated power from the transmitter. This method is desirable in that it allows the synchronizing pulses to be made very strong and not appear in the picture since they are in a "blacker than black" region. Thus, when the synchronizing pulses are being transmitted, the cathode ray beam is completely shut off at the receiver and no image or pattern is seen. In Fig. 1, a drawing of part of the present standard signal is shown. The shading represents the approximate effect of any particular amplitude on the cathode ray screen. There are a number of special portions of the signal as represented in Fig. 1, such as the blanking intervals. These blanking intervals, one for the horizontal time and one for the vertical, are strong signals transmitted to blank out the cathode ray trace as it moves from the right back to the left to begin a new line and from the bottom to the top to begin a new field. If blanking were not employed, bright return traces would be visible and thus mar the picture. Other engineering considerations require that the synchronizing pulse have a certain specified wave shape and that equalizing pulses be employed. Horizontal synchronizing pulses are sent at a rate of 15,750 per second for a 525 line picture. A block drawing of the television system is shown in Fig. 2 and Fig. 3.

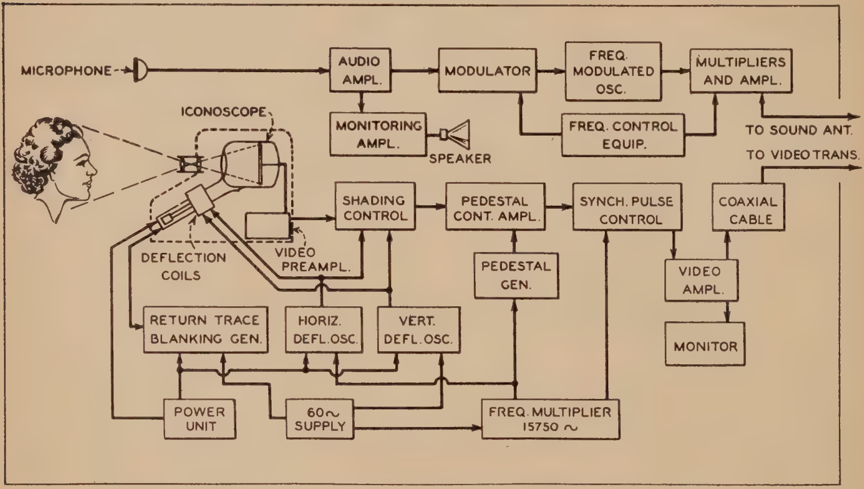

MICROPHONE
AUDIO AMPL.
MODULATOR
FREQ. MODULATED OSC.
MULTIPLIERS AND AMPL.
ICONOSCOPE
MONITORING AMPL.
SPEAKER
FREQ. CONTROL EQUIP.
TO SOUND ANT.
TO VIDEO TRANS.
SHADING CONTROL
PEDESTAL CONT. AMPL.
SYNCH. PULSE CONTROL
COAXIAL CABLE
DEFLECTION COILS
VIDEO PREAMPL.
PEDESTAL GEN.
VIDEO AMPL.
RETURN TRACE BLANKING GEN.
HORIZ. DEFL. OSC.
VERT. DEFL. OSC.
MONITOR
POWER UNIT
60~ SUPPLY
FREQ. MULTIPLIER 15750 ~

Fig. 2.—Block schematic of equipment used in television station.

A television receiver is for the most part a standard superheterodyne with additional circuits to produce scanning and operate the cathode ray tube. The receiving system consists of an antenna usually one-half wave long and commonly called a dipole, a radio frequency or station selecting circuit, and first detector or mixer and a local oscillator. In television the sound which accompanies the picture or scene being transmitted is picked up by a standard microphone and is broadcast on a separate transmitter whose frequency is a few megacycles higher than the picture transmitter. This method permits the oscillator in the receiver to beat against these two different carrier frequencies and produce two separate intermediate frequencies. In the present receivers the local oscillator is adjusted to produce a sound intermediate frequency of 8.25 megacycles and at the same time produce a sound IF of 12.5 megacycles. The intermediate amplifiers produce the necessary amplification and their outputs are rectified to yield respectively the audio and video signals. The audio signal is further amplified and used to operate the loudspeaker. The video signal is also amplified and used to operate the picture tube grid. Additional circuits in the receiver, called synchronizing pulse separators, remove the synchronizing pulses from the video signal produced at the second detector and use these pulses to control the scanning generators. These scanning generators are usually some form of relaxation oscillator which develop, in general, a saw-toothed voltage that is used to deflect the cathode ray beam at a uniform rate. One scanning generator and its associate amplifiers moves the beam in a horizontal direction and is called the horizontal deflection circuit. Another scanning generator and amplifier moves the beam in a vertical direction and is called the vertical deflection circuit. Both of these scanning circuits run continuously and thus the motion of the spot on the cathode ray tube is along a more or less diagonal line sloping toward the right. However, since the spot makes a trip horizontally in a 1/15,750th second against a vertical trip in $\frac{1}{60}$th second, the slope is extremely slight and by rotating the tube slightly, the lines are made horizontal.

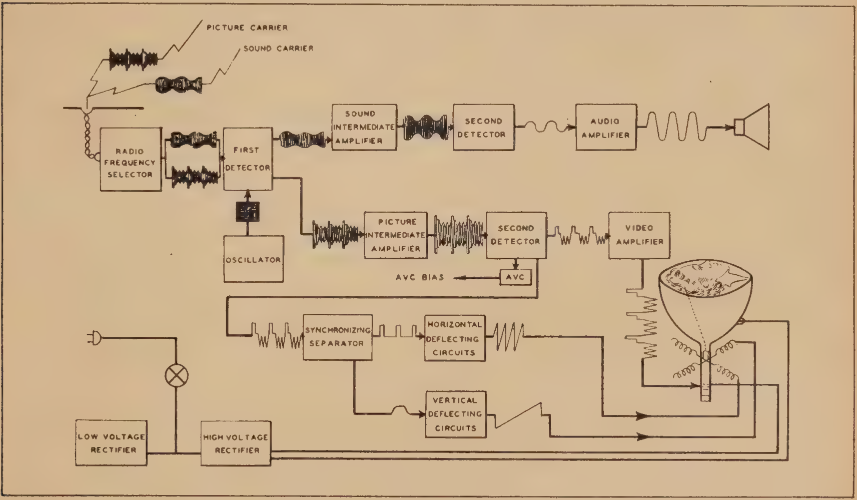

PICTURE CARRIER
SOUND CARRIER
SOUND INTERMEDIATE AMPLIFIER
SECOND DETECTOR
AUDIO AMPLIFIER
RADIO FREQUENCY SELECTOR
FIRST DETECTOR
PICTURE INTERMEDIATE AMPLIFIER
SECOND DETECTOR
VIDEO AMPLIFIER
OSCILLATOR
AVC BIAS
AVC
SYNCHRONIZING SEPARATOR
HORIZONTAL DEFLECTING CIRCUITS
VERTICAL DEFLECTING CIRCUITS
LOW VOLTAGE RECTIFIER
HIGH VOLTAGE RECTIFIER

Fig. 3.—Block schematic of typical television receiver showing signal components at each stage in the set.

In addition to the above mentioned circuits, there are generally two power supplies, one to furnish the low-voltage requirements of the tubes and the second to produce 3000 to 15,000 volts for the picture tube. The power requirements for a television receiver are not high in view of the number of tubes and size of the apparatus. Television picture tubes, while operating at very high voltages, require less than 0.001 ampere.

The average power consumption of pre-war television sets was 200 to 300 watts, roughly half that used by the ordinary electric iron. These sets had approximately 30 tubes for both the television and standard radio.

A block diagram of a conventional television receiver is shown in Fig. 3. The general appearance of the signal at each part of the receiver is also indicated. The radio frequency or station selecting circuits are designed to cover four or five channels in pre-war sets. Push buttons and rotary selector switches were used for tuning. Because of the wide frequency range between stations, none of the commercial receivers employed conventional dial tuning and all of them had some sort of switch for selecting stations. The first detector and oscillator must be capable of a high degree of stability at frequencies from 50 to 100 or more megacycles.

From the first detector, the sound intermediate frequency is delivered to the IF amplifier. This amplifier, the second audio detector and audio amplifier circuits are the same as those in conventional receivers. Frequency-modulated sound is used under present television standards.

The video IF signal is delivered from the first detector to the picture IF amplifier. This amplifier, which in present receivers has an IF of 12.5 megacycles, is designed to amplify equally well all frequencies within approximately a 4.5 megacycle band. This wide band of frequencies is necessary since the fine detail of shading in the original scene produces high frequency video signals. Large black or white areas in the picture produce a low frequency component of the video signal. Since a wide band amplifier has an amplification inversely proportional to the band width, it is necessary to use a large number of stages. A minimum of two stages and an average of about four are used in the present video IF amplifiers.

The second detector of the video signal is a conventional diode circuit, the same as used for standard AM receivers. This detector delivers the video signal including the blanking pulses to a video amplifier. This video amplifier must be capable of handling a range of frequencies from a few cycles per second to approximately 5 megacycles per second. The amplified video signal is connected to the grid of the cathode ray picture tube and thus regulates the brightness of the spot on the fluorescent screen. The number of video amplifier stages depends upon the gain required and on the polarity of the signal. The video signal as applied to the cathode ray grid must have such a polarity that an increase in radiated power at the transmitter causes the grid to become more negative and thus produces a black area on the screen. An additional video stage would reverse this condition giving a result similar to a photographic negative of the original scene.

The synchronizing pulses which were transmitted along with the video signal must be separated from the video signal. This is done usually by means of a clipper tube. This tube has an initial bias level of such a value that only the synchronizing pulses, which are stronger than the video signal, are allowed to pass through the tube. After the synchronizing pulses have been separated from the video signal, it is necessary to separate the horizontal pulses from the vertical pulses. This latter action is accomplished in one system by means of differentiating and integrating circuits. When the combination of synchronizing pulses is passed through a differentiating circuit, which in its simplest form is a series capacitor and resistor, the voltage developed across the resistor will be proportional to the rate of change of the input voltage. From Fig. 1 it is noted that the synchronizing pulses have a very steep rising characteristic of a square wave. This is a rapid rate of change and thus the differentiating circuit responds to the leading and trailing edges of each of the horizontal synchronizing pulses. In Fig. 1 it is noted that the vertical synchronizing pulse consists of a square wave which lasts approximately three times as long as the time for one horizontal line. This block wave is notched or serrated. These notches or serrations have the necessary rapid rate of change to operate the differentiator circuit in order to maintain horizontal synchronization during the vertical synchronizing period. The vertical synchronizing pulse is passed through the integrator circuit which consists of a series resistor and shunt capacitor in the simplest form. This integrator will not respond to the frequent short-interval horizontal pulses, but will average up the energy during the vertical pulse interval. Thus the horizontal and vertical synchronizing pulses are separated because of their wave shape and frequency.

The separated synchronizing pulses are applied to their respective deflection circuits. These deflection circuits consist of some form of relaxation, or blocking oscillator and appropriate amplifiers. These blocking oscillators are used to discharge a capacitor at 15,750 cycles per second in the case of the horizontal deflection circuit and 60 times per second in the case of the vertical circuit. The capacitor is allowed to charge linearly between these discharge periods and thus deflect the cathode ray spot at a uniform rate of speed across the screen.

Two types of deflection systems for cathode ray tubes are in common use for television. One system, called electrostatic deflection, employs four small plates inside the cathode ray tube, one pair to deflect the beam horizontally and the other pair for vertical deflection. Electrostatic deflection is employed primarily in picture tubes 5″ in diameter and smaller. With tubes of this size, 300 to 500 volts are required to swing the beam across the face of the tube and larger voltages are required for larger tubes. On tubes 9 inches and larger, magnetic deflection is the more common system. Magnetic deflection is accomplished by a pair of coils housed in a yoke which is slipped over the neck of the picture tube. A current passed through these deflecting coils will move the beam across the screen. There are a number of advantages for each type of deflection and also some disadvantages. In the picture tube the cathode produces negative ions along with the electrons. These ions are considerably heavier than the electrons and are not deflected by the magnetic system to as large a degree as the electrons. These ions strike the screen in a confined area near the center of the tube and after a period of time produce a brownish colored area commonly referred to as an ion spot. This difficulty is avoided in electrostatic deflection. European cathode ray tubes and some American types are designed for both magnetic focusing and magnetic deflection. This latter combination avoids the problems of the ion spot and at the same time gives the convenience of magnetic deflection. The great majority of American tubes, however, are electrostatically focused by means of appropriate electrodes.

The high voltage power supply in present television receivers uses half-wave rectification and in some cases a voltage doubler circuit is employed to develop the seven to eight thousand volts required for 12 inch tubes. Because of the small current drain, the filter capacitors require only about 0.03 mf. A bleeder resistance of 5 or 7 megohms is used to stabilize the voltage. Appropriate taps are made on this bleeder to operate the focused electrodes and other elements in the cathode ray tube. The low voltage power supply is conventional in all respects, but it is capable of handling several hundred milliamperes for the large number of tubes used.

Future television receivers will, undoubtedly, employ some form of optical projection to obtain larger pictures. It is not practical to use tubes much larger than about 20 inches in diameter and even these give only a 11 × 15 inch picture. The tremendous pressure, several tons, on these tubes makes them dangerous as well as costly. The projection system employs a small cathode ray tube usually about 5 inches in diameter with a fluorescent screen about 3 × 4 inches. The tube is operated at 10 to 20,000 volts and the very brilliant well-defined image is formed on the fluorescent screen. This brilliant image is enlarged optically by the Schmidt telescope system. This optical system uses a magnifying mirror and a correction lens usually of molded plastic. The enlarged image is projected onto a screen from which it can be viewed. The television receiver is exactly the same as described for conventional tubes—the only differences being the higher voltage required for the projection tube, and the necessary optical system.

The present color television receivers, which are of an experimental type, employ a motor-driven disk or drum which carries gelatin filters of the three primary colors past the screen of the cathode ray tube. The motor in the receiver is synchronized with a similar motor at the transmitter by means of synchronizing pulses. At the transmitter, when a red filter is in front of the camera tube, only the red portions of the scene are transmitted and at the same instant a red filter is in front of the cathode ray tube and only the same red areas are viewed. This is repeated for green and blue in rapid succession giving the illusion of full color. Other color systems are also being developed but the combination mechanical-electronic system has been most widely demonstrated in this country.

Questions and Answers about Television

Some of the questions you may ask or be asked about the new art.

Undoubtedly you (and your customers) have some questions to ask about television. Everybody seems to have such queries they would like to put up to the experts for reply.

To meet this situation, your editors have been collecting a lot of questions of the kind dealers and customers everywhere are asking. And then we've gotten some of the best qualified experts to give the answers, fully and clearly, as below:

1. **What is "projection television?"**

   Projection television is the newest improved system in which a small but brilliant picture on the cathode-ray tube is enlarged with lenses and projected on a viewing screen, very much like that of a home-movie outfit. Such a home projection-television picture may measure 18 by 24 inches.

2. **Will the screen be large enough for one to sit and watch in comfort?**

   The picture size on sets using projection tubes will probably be about 18 x 24 inches while direct view sets will probably use a tube not over 12 inches in diameter, giving a picture approximately 8 x 10 inches.

3. **For television, would it be possible to have a roll-down screen like that for home-movie projection?**

   Projection-type television will probably use a roll-down or concealed screen on which the picture may be viewed. One type of teleset built before the war used a screen which could be pulled up out of the cabinet for viewing.

4. **How many people will be able to sit and watch at one time?**

   The number of people who can conveniently watch one television receiver depends upon the size of the screen. Four people can conveniently watch a 5 x 7 inch picture. Pictures 15 x 21 inches will serve 20 to 30 people.

5. **Is color television practicable?**

A number of color-television systems have been demonstrated and at present they require more elaborate apparatus than standard black and white pictures. As problems are solved, color television will be practical for the home, probably one or two years after black-and-white sets are on the market.

6. **What is "horizon reception?"**

Horizon reception refers to the characteristic of high-frequency radio waves (such as those used for television) which limits their useful coverage to approximately the horizon as seen from the transmitter antenna. This limitation is not sharply marked and good reception is often obtained beyond this limit.

7. **Will television replace or only richly supplement radio, movies, newspapers?**

Television will probably not replace standard broadcasting, at least for many years to come. It will offer many new possibilities in education and other fields and greatly enrich the entertainment of the American family.

8. **What is the effect of radio wave reflections?**

Reflections of the radio waves used in television by buildings and other objects produce "ghost" pictures. These ghosts are additional pictures displaced to the right of the main image and are similar in appearance to a double exposure on a photographic print.

9. **Is it true that television was successfully projected upon a full size movie-theater screen in a New York theater in 1940?**

Full theater size television pictures were demonstrated in 1940 in New York City. The pictures were created by a cathode-ray tube and enlarged by means of lenses. The pictures were of good quality, ample brightness and fully acceptable.

10. **What is the best ratio between size of screen and viewing distance?**

The best viewing distance for television pictures is between four and six times the height of the picture.

11. **Is network transmission by radio links employing booster stations superior to transmission by coaxial cable?**

Good results have been obtained in relaying television, both by radio and coaxial cable methods. More research and study of economic problems will decide which is superior.

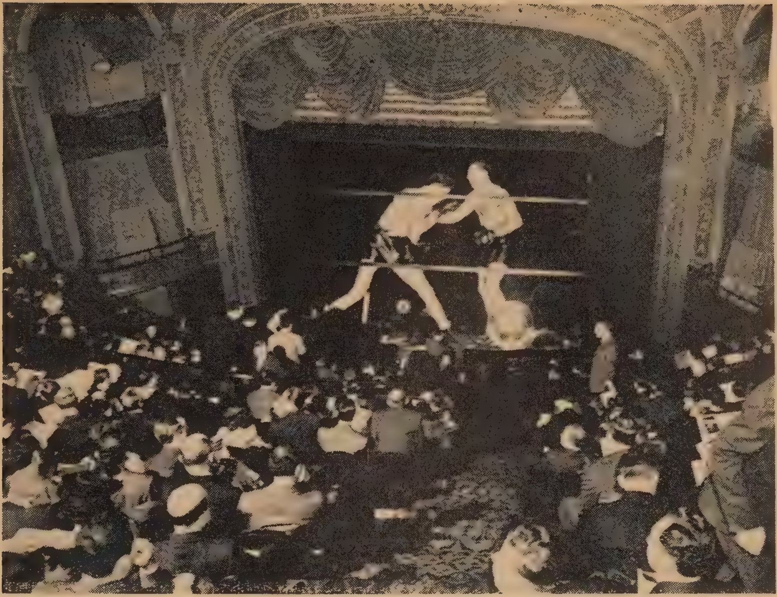
12. **Did television ever "flop" on the basis that it couldn't work?**

Television never "flopped" on the basis that it didn't work. Television sets were sold in modest volume where programs were available but numerous factors including lack of publicity, inability to present commercially sponsored programs, and industry conversion to war production problems prevented television from expanding in 1939, 1940 and 1941.

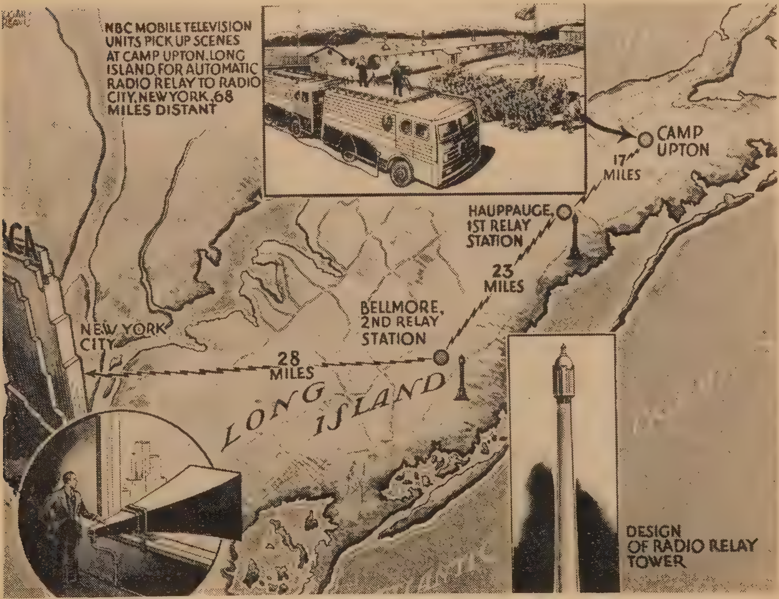
13. **Will the dealer get nation-wide cooperation in advertising from the manufacturer when the sets are released?**

Dealers will, undoubtedly, get nation-wide cooperation in advertising from television set manufacturers.

14. **If color television comes in, will it obsolete the early receivers, or can they be converted?**



Question 9.—Theater television demonstration in which 1200 persons in New Yorker Theater watched championship bout which took place in Madison Square Garden.


NBC MOBILE TELEVISION UNITS PICK UP SCENES AT CAMP UPTON, LONG ISLAND, FOR AUTOMATIC RADIO RELAY TO RADIO CITY, NEW YORK, 68 MILES DISTANT
CAMP UPTON
17 MILES
HAUPPAUGE, 1ST RELAY STATION
23 MILES
BELLMORE, 2ND RELAY STATION
NEW YORK CITY
28 MILES
LONG ISLAND
DESIGN OF RADIO RELAY TOWER

Question 11.—Relay network as used to bring television programs from distant point to main transmitter.

Color-television systems based on present experimental types will not give color pictures on regular black-and-white sets. These sets, however, will give black-and-white pictures of the color transmission. It may be possible to have an adapter to add color to these pictures.

15. **How large a screen will the less-expensive sets have?**

Although great improvements are expected from wartime developments, it appears that at the outset the picture size in the less expensive receivers will probably be about 5 x 7 inches,—possibly slightly larger.

16. **Will sets for television made for FM or AM be affected should the modulation be changed?**

When the modulation system was changed from AM to FM in 1940, the sets made for AM worked satisfactorily on FM. Very minor changes, if any, are required when changing from one modulation type to the other.

17. **Will the competition of television be so great, that none of the interesting entertainment events can be broadcast? In other words, will you see a good new movie on television, or must you watch an old outdated one? Will the baseball management object to televising the World Series on the basis that it affects attendance?**

Television will develop its own brand of programs and will represent a large enough audience with sufficient buying power to command the best types of films, sporting events and other news interests. Standard broadcasts of baseball games have in no way injured attendance and the extra income derived from these broadcasts has actually been equivalent to a far greater attendance as far as the ball clubs are concerned.

18. **Can you offer a trade-in guarantee for five years, so that changes will not make the first receivers obsolete?**

When new television standards are announced by the Radio Technical Planning Board, they will be sufficient to take care of future developments for many years to come, and sets made based on these standards will, undoubtedly, reach the end of their useful life before technical improvements make them obsolete. Changes must be extremely radical in order to make the set completely useless. Sets sold in 1939 and 1940 were not made obsolete by the standards changes early in 1941.

19. **Must each individual television set have an individual antenna or can a group of people in an apartment house have one mutual antenna?**

Television sets can be operated in combination from the same antenna. The installation is more exacting than standard broadcast, but can be accomplished.

20. **Can installation be guaranteed for a certain period of time? Can reception be guaranteed for a certain period of time?**

The installation and reception can be guaranteed for a reasonable period of time as surveys have shown that over 80% of television sets sold were in good operating condition four to five years after the sale.

21. **Will the $200 sets be "junk" or will each consumer have to pay a very large price for adequate reception and comfort?**

Low-priced television receivers will not be "junk" since the high voltage and high frequencies used demand quality parts and also the eye is far more critical than the ear. Sets sold for around $200 were fine pieces of engineering and gave excellent results.

22. Will television hamper or augment the sale of radio sets?

Television will supplement radio-set sales, and will undoubtedly increase the average list-price of radio-television-phonograph combinations.

23. Will units be available to convert a radio set to television? And if so, how long will it take?

Converter units were sold before the war to give television pictures while using the audio and speaker part of the standard radio for the accompanying sounds. They may be available in future lines but since the audio and speaker system is such a small part of the cost of a complete television receiver these converter units cannot be very much cheaper than a regular set.

24. Will there be such a thing as home demonstrations?

Home demonstrations will be possible in many cases and will probably be necessary in order that the dealer can determine how successful the installation will be.

25. Will it be advisable to set up a demonstration department in the store?

A demonstration department for television should be used by all means. In order to watch a television picture more concentration is required and the department should be separated from small radio and record playing sections.

26. What percentage of the population is prepared to purchase a modestly priced television receiver of about $200?

Surveys and reports indicate that over 60% of the population in a television area is prepared to purchase a receiver for about $200.

27. Do you think that a low-cost automatic rebroadcasting television transmitter will be able to provide coverage of smaller markets?

Automatic rebroadcasting stations will probably be used to provide service in rural areas not covered by main television transmitters.

28. Can the television set be hooked up on present aerial?

Television sets will not operate properly except with antennas designed for that service.

29. Does it cost much to operate a television receiver?

The largest size television sets cost for electricity per hour approximately half as much to operate as a 600-watt electric iron.

30. Is the maintenance cost high—such as necessity for frequent tube replacements and so forth?

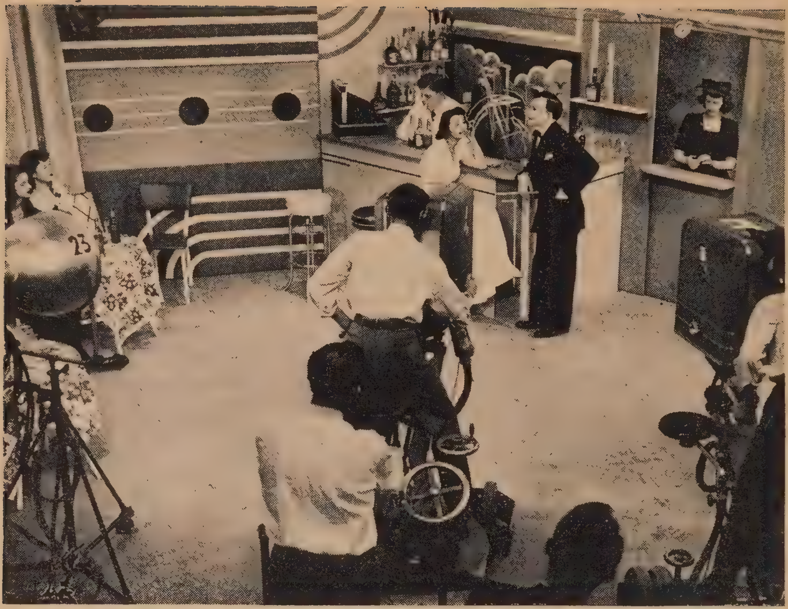
Experience on more than 6,000 television sets has shown an extremely low maintenance cost. Tube replacements are no more frequent than the average for standard AC-operated home radios.

31. Does "static" ever cause interference in television?

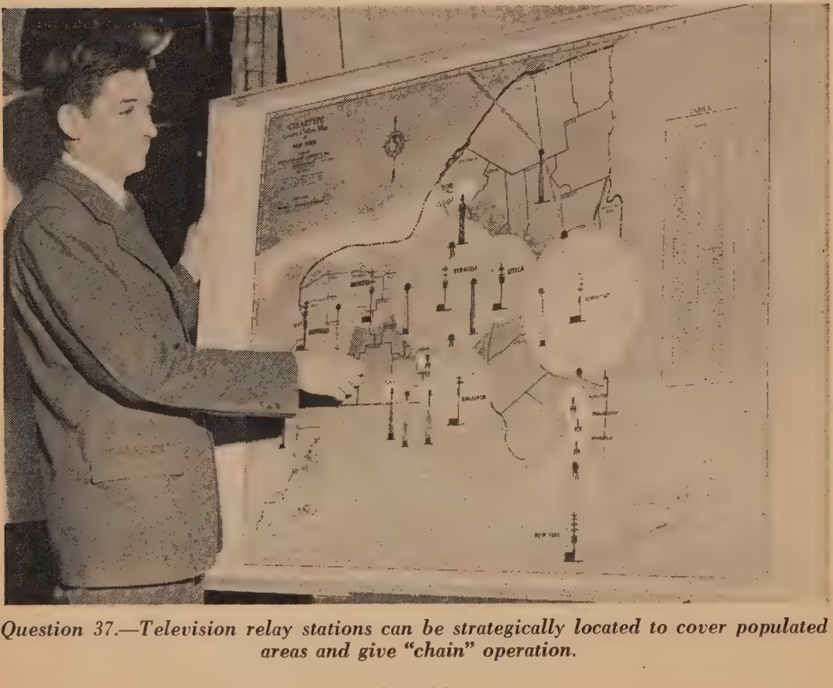
Static causes interference in television sets. However, natural static common on the standard broadcasting band is much less severe and almost non-existent in television. In the present band of frequencies used for television, automobile ignition noise, unshielded diathermy and X-ray machines produce disturbances that mar the picture.

32. How is the television image transmitted?

The television image is transmitted by radio waves which are varied or modulated in proportion to the relative light intensity at each of some 300,000 elementary



Question 33.—Sound synchronization. Overhead microphone picks up speech for transmission on separate transmitter simultaneously with picture.



Question 37.—Television relay stations can be strategically located to cover populated areas and give "chain" operation.

areas of a particular scene. The modulated radio waves are received and the electric currents amplified and used to change the brightness of a fluorescent spot moving in synchronism with a similar scanning system at the transmitter. This moving spot reproduces the light, dark and shaded areas as they originally existed.

33. How is sound synchronized with picture image?

The sound which accompanies the television picture is picked up by a microphone and broadcast in a normal manner. Since all action, including the speed of the radio waves, is identical in time, synchronism of sound and picture is automatic.

34. What is the difference between television and wire photo?

Television and wire photo or facsimile are very similar with the exception that television pictures are transmitted complete in approximately 1/30 second while a wire photo picture requires several minutes for transmission.

35. Why can't the picture be all sent at once? Why does it have to be broken down into component parts?

In order to transmit a scene by radio waves, it is necessary to divide the scene into a large number of very small areas since the electric current can represent the light intensity of only one small area at a time. A single current cannot represent an entire picture since the strength of this current would merely be an average of the light intensity of the whole picture.

36. What is a scanning system?

A scanning system is one in which a given scene is regularly divided into elementary areas (approximately 300,000 in television) and an electric current is developed proportionately to the light intensity of each of these areas. In cathode ray television the scanning element is a beam of cathode rays (electrons). The order of scanning is from left-to-right and top-to-bottom, the same as you read this page.

37. How far apart can relay stations be operated?

Television relay stations can be operated satisfactorily at any distance from which a line of sight path is possible. Where mountains and high buildings can be used to good advantage, 100 or more miles is possible and actually being used. In general the stations will be about 30 to 50 miles apart.

38. How many pictures are required per second so as not to cause flicker?

In television 60 pictures are sent each second, each such picture with half the final number of lines. These 60 pictures are interlaced to give 30 complete frames per second. In motion picture work 24 frames per second is standard.

39. What is the present number of scanning lines?

The present number of scanning lines is 525. This is the number of rows from top-to-bottom into which every given scene is divided.

40. What will the practical number of scanning lines be postwar?

The number of scanning lines in postwar sets will be determined by transmission standards now being decided. It will probably be in the neighborhood of 700. While greater number of lines gives increased picture detail, very great increases are required above approximately 700 in order to produce a noticeable improvement. 525 as presently used gives the same resolution as that obtained with standard 16-mm. motion picture equipment.

41. How many tubes will be in the ordinary lowest-priced television set?

Low priced television sets will have between 15 and 20 tubes. This is exclusive of any broadcast or other radio chassis which may be included. Improved types of tubes will permit comparable results with a smaller number.

42. Is it necessary to darken the room to watch television?

It is not necessary to have the room in total darkness to watch television. As long as direct sunlight or bright artificial lights are not falling directly on the screen, satisfactory results are obtained. Television is less critical of exterior lighting than home movies or regular motion picture theaters.

43. If television is moved to higher frequencies, would we have to scrap present receivers?

After final assignments are made it is unlikely that television will be moved to another part of the radio spectrum. If such a change should become necessary, only the station selecting part of the receiver would probably have to be changed.

44. What are the advantages of higher frequencies of transmission and reception?

Very high frequencies permit compact receiving antennas and more freedom from man-made static. However, at present, such equipment is more costly and less stable for home use.

45. What methods of distribution of television sets are we likely to have, postwar?

Before the war there were four channels through which radio and television sets were routed to the ultimate consumer, and it is probable that the same ones will be employed postwar, as follows:

1. Manufacturer to independent jobber to dealer to consumer.
2. Manufacturer to his wholly-owned distributing agency or factory branch to dealer to consumer.
3. Manufacturer to dealer to consumer.
4. Manufacturer direct to consumer.

46. What advantages are claimed for the first-mentioned "independent jobber" channel?

No dealer overstocking—prompt, personal service—local executive authority—prompt, nearby service and adjustments—ability to contact dealer frequently—knowledge of dealer's territory—knowledge of dealer's financial set-up, and ability to deviate from set financial rules.

47. How about the "wholly-owned distributor?"

Specialization—availability of factory parts and service—financial strength—knowledge of products. Factory contacts provide advance knowledge of model changes, etc. Close dealer contact and knowledge of dealer's territory and his financial structure.

48. What are advantages of "manufacturer-direct-to-dealer" set-up?

Factory control of service and installation builds good-will for dealer. Financial backing for dealer—advertising cooperation possibilities. Set-up may bring additional servicing to dealer's store. Proponents claim this is best way to handle high priced merchandise.

49. What are chief appeals of "manufacturer-direct-to-consumer" plan?

Lower price "factory-to-you" appeal. More for less. In such cases, manufacturer generally has local servicers "authorized by factory."

50. Does it appear that discounts to dealers will be larger or smaller in the post-war period?

Since most manufacturers and jobbers look for increased competition on the part of syndicates, chains and mail-order houses, they predict that independent dealers' discounts will be sharply lowered.

51. Are the sound and the picture signals sent over the same frequency?

No. Sound and picture signals are transmitted on different frequencies, which always have a fixed difference.

52. Do television sets require ground connections?

Yes. Television receivers, like any other sets should have good ground connections, where best results and safety are desired.

53. Is the high voltage used in television receivers a potential danger to the user?

Television sets have safety inter-lock switches which disconnect all power when set is opened up.

Vocabulary of Television Terms

Words and their meanings.

A

Amplitude—The magnitude of any quantity, particularly voltage or current.

Amplitude modulation—The periodic variation of the voltage or current in a circuit in accordance with some signal being transmitted.

Antenna—An electrical circuit for radiating or receiving electromagnetic waves (radio).

Aspect ratio—The ratio of picture width to picture height. Now 4:3.

Audio—(I hear). A term applied to any part of a radio or electrical system handling frequencies in the audible range.

B

Band-pass filter—An electric circuit which will transmit frequencies between two limits and reject others outside those limits.

Bandwidth—The number of cycles per second required to convey the information being transmitted either visual or aural.

Blacker-than-black—A portion of the television signal devoted to synchronizing. These synchronizing signals are transmitted at a higher power than the blackest part of the picture, so that they will not appear on the screen.

Blanking—The process of cutting off the cathode ray during the time it is not forming a part of the picture. This occurs when the spot returns from the far right to begin the next line and from the bottom to the top of the picture.

Blocking oscillator—A type of oscillator which generates intermittent signals used for scanning in cathode ray tube.

Bloom—The condition of overall bright illumination of the picture tube obscuring any picture detail.

Booster anode—A conductive coating placed inside a cathode-ray tube near the screen and because of a high positive voltage applied to it, causes a brighter picture.

Brightness control—A control on the receiver for regulating the overall brightness of the picture.

C

Camera tube—The electron tube used to translate a scene into electrical impulses.

Carrier—The term applied to the high frequency radio wave which is modulated by the audio and video signals.

Cathode—The electrode in a tube from which electrons are obtained, usually by heating or by photoelectric effects.

Cathode ray tube—An electron tube in which streams of electrons from a cathode are formed into a pencil-like beam and directed by means of electric or magnetic fields over a target, usually a fluorescent screen which glows wherever the beam strikes.

Characteristic impedance—The input impedance of a transmission line infinitely long or a short line terminated in its characteristic impedance. The impedance is independent of length and depends on size of conductor and spacing.

Clipper—A circuit used to separate signals of different amplitudes. In television these circuits are used to separate the synchronizing pulses to the video and signal.

Coaxial cable—A particular type of cable capable of passing a wide range of frequencies without the usual prohibitive losses. Such a cable in its simplest form consists of a hollow metallic conductor with a single wire accurately confined along the center of the hollow conductor.

Contrast—This refers to the ratio of the black to white portions of a picture. Pictures having high contrast have very deep blacks and brilliant whites, while a picture with low contrast has an overall gray appearance.

Contrast control—A control on the receiver which regulates the video signal strength. This has the effect of changing the ratio of the black and white portions of the picture. It corresponds to the volume control in an aural receiver.

Control room—Studio facilities from which television cameras, lighting, shading and mixing is performed.

Cycle—One complete set of values in any series of phenomena which repeats periodically. In radio this usually refers to one complete range of values for either voltage or current.

D

Damping circuits—These circuits are used to prevent high voltages from being induced in the deflection coils when the current changes suddenly.

DC restorer—This circuit regulates the average brightness of the television picture tube to correspond with the average brightness of the scene being transmitted.

DC transmission—This term applies to circuits which will pass zero frequency.

Deflection—The movement of the cathode ray beam by electric or magnetic fields.

Deflection yoke—The combination of coils used to direct the cathode ray up-and-down and right-and-left to form the image.

Delay screen—A fluorescent screen used in cathode ray tubes, which has the property of phosphorescence. The light intensity of any particular spot dies out gradually after the ray moves to a new position when this material is used.

Differentiating circuits—These circuits respond to the rate of change of a pulse and are used in synchronizing the receiver scanning.

Diode—A vacuum tube having two elements, one of which emits electrons (the cathode) and the other the anode. It is used for rectification (detection), that is the conversion of alternating currents into direct currents.

Dipole antenna—An antenna consisting of two conductors, usually of equal length extending in the same straight line, with a pair of lead or feeder wires connected at or near the inner ends, is known as a doublet. For short waves the physical dimensions are such that self-supporting metal rods or tubes can be used.

Director—A section of an antenna used to increase the pick-up from the side on which the director is placed.

Dissector tube—The special type of television tube used in the pick-up camera in the Farnsworth system.

Distortion—Any change in the original frequency, amplitude or phase of a radio signal.

Divergence—The spreading of a cathode ray stream due primarily to the mutual repulsion between the electrons that compose it. The function of the focusing arrangement in the tube is to counteract this effect.

Dolly—The movable stand upon which the television camera is mounted.

Double side band—When a carrier is modulated by a plurality of signal frequencies, two distinct bands of frequencies appear, due to the modulation process, one on each side of the carrier frequency.

E

Electrode—A metallic conductor introduced into a vacuum tube for a specific purpose. It must be electrically connected to the external circuit. In general each electrode is referred to by its specific use, such as cathode, grid, anode, etc.

Electromagnetic focusing—A system in which magnetic fields parallel to the motion of the electrons are used to confine them to a narrow beam.

Electron gun—That part of a cathode ray tube in which the electrons are emitted, formed into a beam and deflected.

Electron lens—A systematic arrangement of electromagnetic or electrostatic fields, having symmetry about the axis of a cathode ray tube, as to their radial components, established for the purpose of controlling the divergence and convergence of the electron ray.

Electron multiplier—An evacuated amplifier tube in which one or more anodes have photoelectric surfaces which are exceedingly active as to secondary emission. The original electron emission is cascaded by the secondary effects.

Electron tube—A device employing a cathode, an anode and possibly additional electrodes for controlling the volume and direction of flow of electrons which constitute electric current.

Electrostatic focusing—A system in which electric fields are employed to confine the electrons into a thin stream.

Emission—The continuous liberation of electrically charged particles, either ions or electrons, into space (usually evacuated) from a surface. The most important case practically is where these particles are negatively charged, i.e., electrons.

Equalizing pulses—These are signals transmitted after each vertical synchronizing pulse to insure correct start of horizontal sweep circuit.

F

Facsimile transmission—The electrical transmission over wires or radio circuits of printed records and pictures. While this term originally referred to black-and-white reproductions only, it is now considered to include processes producing half-tone and shaded effects as well.

Fade-out—A camera technique in which a scene is gradually dimmed from view.

Fidelity—The faithfulness with which a system reproduces audio or video signals.

Field—This term refers to one set of scanning lines making up a part of the final picture. In present standards, pictures are transmitted in two fields of 262½ lines which are interlaced to form 30 complete frames per second.

Field frequency—This term refers to the repetition rate of the field, which in present systems is 60 per second.

Filter—Any circuit for separating signals according to frequency. Also refers to films and solutions used to filter certain colors in a light spectrum.

Fluorescent screen—A chemical coating on the inside of a cathode ray tube which emits light at the point where a cathode ray beam strikes.

Flyback—In scanning, the spot is moved across the screen at a definite rate in one direction for each scanning line. Thereupon, it is necessary to restore it to the start of the next line in a very short interval of time, say three or four millionths of a second. This return time is termed flyback.

Focus—In a cathode ray tube this refers to the size of spot of light on the screen. The tube is said to be focused when the spot is smallest. This term also refers to the optical focusing of the camera lenses.

Frame—One of a series of complete pictures that are successively viewed so as to simulate moving scenes.

Frame frequency—The rate at which frames are sent each second in the various moving picture and television applications.

Framing control—This control on a receiver adjusts the picture repeat rate to that of the transmitter. It is also called the vertical hold control.

Frequency—A term applied to the rate of repetition of voltage or current or other periodic functions.

Frequency modulation—A process by which the carrier frequency is modulated in accordance with the information to be transmitted.

Fundamental—The basic frequency of a wave or sound. It is sometimes referred to as the "first" harmonic.

G

Gas-filled triode—A type of vacuum tube in which the elements operate in an atmosphere of gas, such as mercury, argon, helium, etc.

Ghost—A secondary picture formed on a television receiver because the signal from the transmitter reaches the antenna by more than one path. Ghosts are usually caused by the radio signal being reflected from objects within approximately one mile of the receiver antenna.

H

Halation—The ring of illumination which surrounds the point at which the electron beam strikes the fluorescent screen.

Halftone—A method whereby photographs having various degrees of lights and shadows can be reproduced in ordinary printing, using a system of dots which are substantially undistinguishable to the unaided eye. However, the dots are graded as to size or density so as to produce the highlights and shadows of the pictures.

Harmonics—In electrical and radio circuits the fundamental current waves are usually accompanied by others whose frequencies are equal to some whole number multiple of that fundamental. These multiples are also called harmonics.

Heaviside layer—The ionosphere. A region of ionized air some fifty miles above the surface of the earth. Its lower boundary acts as a reflective surface or "mirror" for radio waves. Rapid changes in the height of this lower boundary and its contour causes much of the radio interference and fading.

Heterodyning—The process of changing frequency by combining the received signals with the output of an oscillator tube in the receiver.

Horizontal centering—The position of the picture with respect to the axis of the cathode ray tube. This is accomplished by a control on the receiver.

Horizontal hold control—A control on the receiver for adjusting the number of lines per second to correspond with that of the transmitter.

I

Iconoscope—A designation used by RCA for a particular type of cathode ray tube developed for the purpose of picking up the scenes to be televised. It is the essential part of a studio camera.

Image dissector—A television camera tube developed by P. T. Farnsworth in which the photoelectrons are moved past pickup aperture by deflection circuits.

Integrating circuits—Circuits used to add up the energy of a number of repeated pulses. These circuits are used in the receiver for synchronization.

Interference—Random electrical signals which cause noise in the audio system and disrupt the picture in television. This includes automobile-ignition impulses, some diathermy apparatus, neon signs, etc.

Interlacing—A system whereby the odd numbered lines and the even numbered lines of a picture are sent as two separate fields and superimposed to create one frame or complete picture.

Ion spot—A discoloration on the center of the screen of a cathode ray tube caused by heavy negative ions striking it.

K

Kerr cell—A chemical solution which changes its light transmission characteristics when electric fields are applied to the solution. An early form of a television reproducer system no longer used.

Keystone effect—A distorted field or background noticed in some cases with television pictures, where the opposite edges are not parallel.

Kinescope—A name applied to the cathode ray tubes used in the television receivers built by RCA.

L

Lens—A radial field (electrostatic or magnetic) applied concentric with a cathode ray to concentrate the diverging electrons into a single slender beam, is called a lens.

Line—The path covered by the moving electron spot. The intensity of the spot along this path is altered to create that portion of the picture. In present systems 525 lines make up the complete picture.

Linearity—A term used to refer to the straightness of a characteristic curve, or a portion of that curve, that shows the relation between two quantities or circuit factors. The uniformity of distribution of a regular pattern on a picture tube.

Line frequency—The number of lines scanned each second. In any system it is equal to the number of scanning lines per frame, multiplied by the framing frequency.

Line of sight—A straight, unobstructed path between two points.

Live talent—"On-the-spot" televising of events and people in contrast to transmission of film material.

Lumen—A lumen is a unit of light flux. A foot-candle is equal to the illumination that falls on a screen that is placed one foot away from a standard candlepower. One foot-candle is equal to one lumen per square foot of surface.

M

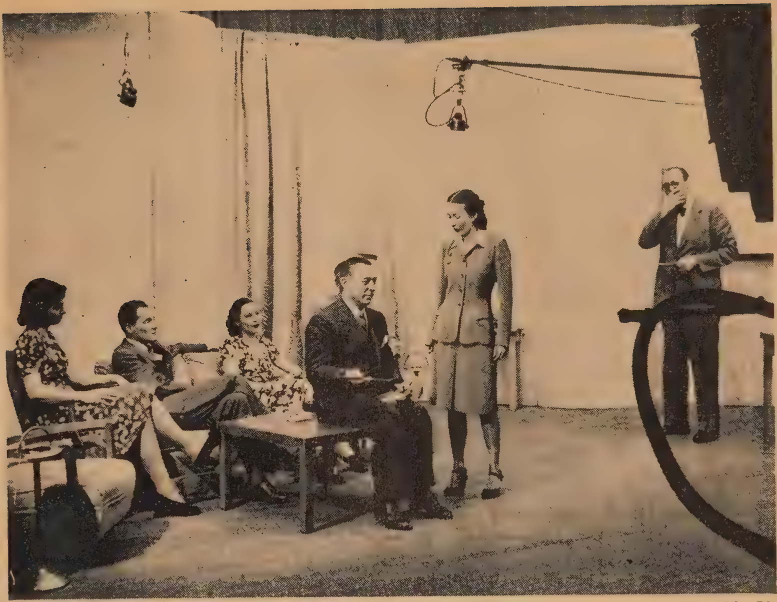
Megacycle—A total of one million cycles.

Microphone boom—The arm which carries the microphone above the area being televised.

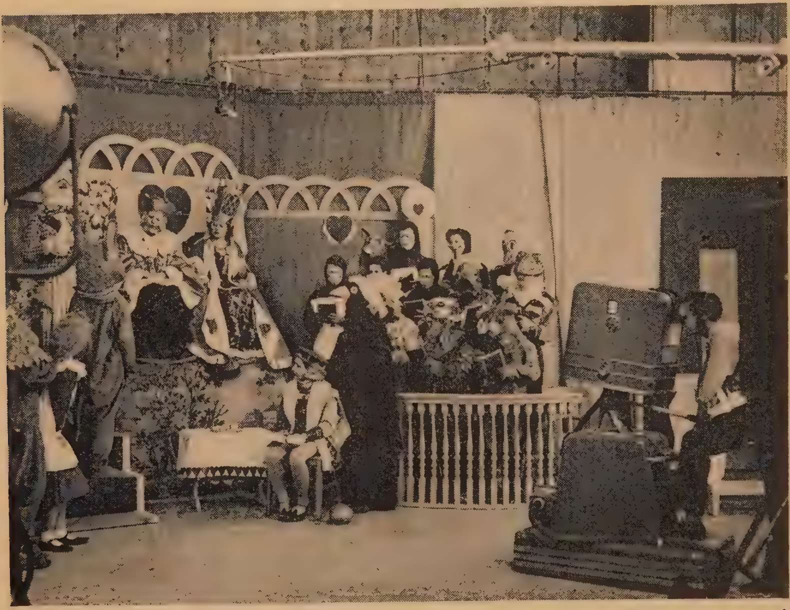
Microwave—This term generally refers to radio waves having a wavelength of less than one meter, that is, one having a frequency greater than 300 megacycles.

Modulation—A process of altering the amplitude, phase or frequency of a radio carrier in accordance with the information to be transmitted.

Modulation grid—An electrode interposed between the cathode and focusing electrodes in a cathode ray tube, to control the amount of emission and thereby the brilliance of the spot. This controlling effect is produced by altering the voltage of this grid with respect to the cathode.



Live talent *in video quiz show presented by CBS television station in N. Y. entertains lookers-in with hilarious antics.*



Microphone boom *is long adjustable arm to carry sound pickup to scene of action, keeping it out of direct view of television camera.*

Monitoring—The technique of controlling, at the transmitter, the picture shading, and other factors involved in the transmission of both the scene and the accompanying sound.

Monoscope—A television camera tube which contains a simple picture or pattern used for test purposes.

Mosaic—The screen used in an Iconoscope so called due to its similarity to that form of art wherein a great many bits of colored tile are combined so as to form a picture.

Multipath transmission—The condition in which the radio signal from the transmitter travels by more than one route to a receiver antenna usually because of reflections from obstacles. This condition usually results in ghost pictures.

N

Negative ghosts—Ghost pictures in which the black and white areas are opposite to those of the real picture.

Negative transmission—This has to do with the polarity of transmission of a television signal, or the direction of modulation to produce the light and dark parts of the picture. In negative transmission a white area corresponds to a decrease in the carrier amplitude.

O

Orthiconoscope—A television camera tube combining some of the features of the image dissector and Iconoscope.

P

Panning—(From panorama) A camera technique in which a large arc of the scene is shown by swinging the camera around a central point.

Peaking—A technique of increasing the response of amplifiers at some particular range of frequencies.

Pedestal—A portion of the television video signal used to blank out the cathode ray beam as it flies back from the right edge of the picture to the left.

Phase—A term used to designate the time relation between the maximum points of two recurrent electrical quantities such as voltage, current, etc. It is expressed in degrees of a circle, one complete revolution of which represents one cycle of one of the waves.

Phase shift—Any change in the phase relations of current or voltage.

Photoelectric emission—The phenomena of electrons being emitted from certain materials when they are exposed to light.

Photoelectric tube—A tube in which electrons can flow to a charged anode when light falls on the tube causing emission.

Picture element—A small section of a given scene as reproduced by the cathode ray spot at any instant.

Picture noise—Interference signals causing spots of light and other irregular patterns on the received picture.

Polarization—A term usually applied to the position of the transmitting antenna, that is horizontal or vertical. The receiver antenna should correspond in most instances to that of the transmitter. At the present time horizontal polarization is standard.

Positive transmission—A television system in which maximum radiated power from the transmitter corresponds to maximum white area in the picture. Not used in this country.

R

Radio channel—The "space" in the frequency spectrum allotted to each station. In present television standards the channel is 6 megacycles.

Raster—A term applied to the group of lines appearing on the cathode ray tube in the absence of an incoming video signal.

Reflector—A part of an antenna system used to prevent pick-up of signals in one direction and increase it in the opposite direction.

Relaxation oscillator—A type of circuit which oscillates periodically. Used to generate scanning voltages.

Return trace—The lines on the cathode ray screen formed as the cathode ray beam moves back to its starting position.

S

Saw-tooth—A voltage or current whose variation with time follows a saw-tooth outline.

Scanning—The process of forming a picture by a spot of light of changing intensity moving at high speed from left to right and in a sequence of rows or lines from top to bottom.

Scanning line—One line from left to right of a picture being transmitted.

Sensitivity—A measure of the ability of a receiver or other device to produce a given output for a given input.

Shading—The process of correcting the light distribution in the image produced by the television camera. This is a part of the station monitoring job.

Side bands—The groups of frequencies higher and lower than the carrier which contain the information being transmitted and produced by the process of modulation.

Signal—The electrical impulses which represent the sound or picture elements being transmitted.

Spectrum—A band or range of frequencies.

Spot—The light produced by the slender beam of electrons on the fluorescent screen.

Sweep—The uniform motion of the electron beam across the face of the cathode ray tube.

Synchronization—The process of keeping the moving beam of electrons at the picture tube in the exact relative position with the scanning process at the transmitter.

T

Television—Literally, seeing at a distance. A system of transmitting a scene by dividing it, by a scanning process, into a great number of elemental areas and representing each area by an electric signal. The electric signals are received and used to control the intensity of a spot of light to correspond to the light and shade of each original picture area as the spot is moved over a screen, in synchronism with the scanning at the transmitter.

Television camera tube—A cathode ray tube used to convert the light and shade portions of a scene into electrical signals.

Television picture tube—A cathode ray tube in which a picture being transmitted is recreated by a moving beam of electrons.

Test pattern—A drawing containing a group of lines and circles, etc. transmitted for receiver and transmitter test purposes.

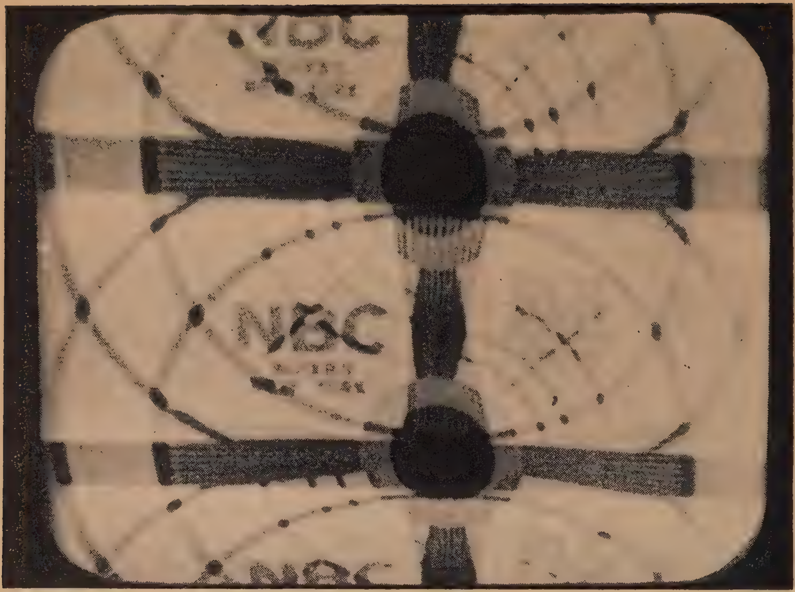
Trap—A circuit used to reject unwanted signals.

Trimmer—A device which permits a resonant circuit to be tuned over a limited frequency range.

V

Vestigial side band transmission—A method of suppressing part of one side band to limit bandwidth requirements.

Vertical centering—The control which regulates the position of the picture vertically on the screen.



Vertical hold *control incorrectly adjusted on receiver gives over-lapped images.*

Viewing mirror *on cabinet lid reflects image formed on horizontal surface of cathode ray picture tube.*

Vertical hold—A control on the receiver to adjust the field rate of the scanning to that of the transmitter.

Video—(I see) The portion of the television signal which contains the picture information.

Viewing mirror—A mirror used to reflect the image formed on the picture tube at a convenient viewing angle.

Y

Yoke—A set of coils used around the neck of a cathode ray tube to produce horizontal and vertical deflection of the electron beam.

Who Will Make Television Sets Postwar?

Price ranges of telesets? Plans for projection sets? FM? Recorders?

Since dealer is interested in knowing what plans the radio manufacturers have made for producing television sets, FM sets and recording equipment, the publishers sent out a questionnaire to leading companies requesting that they give an indication of the sets they expect to manufacture postwar. These replies by the manufacturers have been tabulated as follows:

Manufacturer's Name	Television			Radio		Recording	
	Do you expect to sell television sets postwar?	Estimated retail price range	Will you make projection type sets?	Will broadcast sets include FM?	Will you manufacture auto sets?	Will you manufacture recording equipment?	Professional or home recording
Admiral Corp.	yes	$175–$450	yes	yes	no	yes	professional
Air King Products Co. Inc.	yes	$250–$750	yes	yes	no	yes	home
Andrea Radio Corp.	yes	$79–$700	yes	yes	no	no	
Ansley Radio Corp.	yes			yes	no	no	
Automatic Radio Mfg. Co.	yes			yes	yes		
Belmont Radio Corp	yes			yes	yes	yes	home
Browning Laboratories Inc.				yes	no	no	
Colonial Radio Corp.	yes		yes	yes	yes	yes	home
The Crosley Corp.	yes	$125–$200 and up	yes	some	no	yes	home

Manufacturer's Name	Television			Radio		Recording	
	Do you expect to sell television sets postwar?	Estimated retail price range	Will you make projection type sets?	Will broadcast sets include FM?	Will you manufacture auto sets?	Will you manufacture recording equipment?	Professional or home recording
Delco Radio				yes	yes		
DeWald Radio Mfg. Corp.	yes		probably	yes	no	yes	home
Allen B. DuMont Labs. Inc.	yes		yes	FM in television sets	no	no	
Eckstein Radio & Television Co.	no			some	yes	yes	home
Electrical Research Labs. Inc.	yes			yes	no		
Electronic Corp. of America				yes	no	yes	home
Emerson Radio & Phono. Corp.	yes		yes	yes	no	yes	both
Espey Manufacturing Co.	yes	$200–$500		yes	no	yes	home
Fada Radio & Electric Co.	yes	$300–$1000	yes	special FM sets	no	only as required for combination units	
Farnsworth Television & Radio Corp.	yes		yes	some	yes	probably	
Freed-Eisemann Radio Corp.	yes	phono combinations $600 upwards	yes	yes	no	yes	home
Galvin Manufacturing Corp.	yes			yes	yes	yes	home
Garod Radio Corp.	yes		yes	yes	no	yes	home
General Electric Co.	yes	$200 up	yes	yes	no	yes	both
General Television & Radio Corp.*							
Gilfillan Bros. Inc.	yes	$375–$750	yes	yes	no	yes	home
Hallicrafters Co.	yes		no	yes	no	no	
Hamilton Radio Corp.	possibly	$400–$600	yes	yes	on contract basis		
Hammarlund Manufacturing Co. Inc.*							
Hoffman Radio Corp.	yes			yes	no	yes	home

* Indicates that no reply to questionnaire was received at the time of going to press.

Manufacturer's Name	Television			Radio		Recording	
	Do you expect to sell television sets postwar?	Estimated retail price range	Will you make projection type sets?	Will broadcast sets include FM?	Will you manufacture auto sets?	Will you manufacture recording equipment?	Professional or home recording
Howard Radio Co.	yes			yes	no	yes	home
International-Detrola Corp.	yes	$150–$300		some	yes		
Magnavox Co. Ltd.	yes			yes	no	yes	both
Majestic Radio & Television Corp.	yes	$200–up		yes	no	yes	home
Meissner Mfg. Co.	yes		yes	yes	no	yes	home
National Co. Inc.*							
Noblitt-Sparks Industries	yes			some	no	no	
Packard-Bell Co.	yes	$200–$500	yes	yes	no	yes	home
Philco Corp.	yes	$125–$150 table models	yes	yes	yes	yes	home
Philharmonic Radio Corp.	yes			yes	no	yes	both
Pilot Radio Corp.*							
RCA Victor Div. Radio Corp. of America	yes	$200–$400	yes	yes	for mfrs.	yes	professional
Remler Co. Ltd.	yes	$150–$300	yes	yes	no	yes	home
Setchell-Carlson Co	yes		yes	yes	yes	yes	both
Sonora Radio & Television Corp.				yes	yes	yes	home
Sparks-Withington Co.	yes			yes	yes	yes	home
Stewart-Warner Corp.	yes			yes	no	yes	home
Stromberg-Carlson Co.	yes		yes	some	no	yes	home
Templetone Radio Co.	yes	$125–$495	yes	yes	no	yes	both
Trav-Ler Karenola Radio & Television Co.				yes	yes	yes	home
Warwick Mfg. Corp.	no			yes	no	no	
Watterson Radio Mfg. Co.	yes			some	no	yes	both
Westinghouse Elec. & Mfg. Co.	yes			yes			
Wilcox-Gay Corp.				yes	no	yes	both
Zenith Radio Corp.	yes						

* Indicates that no reply to questionnaire was received at the time of going to press.

Television Broadcast Stations

Licensed, licenses applied for, and contemplated.

State and City	*Call Letters*	*Operating Organization*
ALABAMA		
Birmingham		The Birmingham News Co.[1]
ARIZONA		
ARKANSAS		
CALIFORNIA		
Fresno		**J. E. Rodman[2]**
Los Angeles	W6XYZ	**Television Productions Inc.**
Los Angeles	KTSL	**Don Lee Broadcasting System**
Los Angeles		**National Broadcasting Co.**
Los Angeles	KSEE	**Earle C. Anthony, Inc.**
Los Angeles	W6XHH	**Hughes Productions Inc.**
Riverside		**Broadcasting Corp. of America**
San Francisco		**National Broadcasting Co.**
San Francisco		**Don Lee Broadcasting System**
San Francisco	W6XHT	**Hughes Productions Inc.**
San Francisco		**The Associated Broadcasters Inc.**
San Francisco		Blue Network Co. Inc.
San Mateo		**Hughes Productions Inc.**
Stockton		**E. F. Peffer**

[1] Light face type indicates "station contemplated" or "under discussion."

[2] **Bold face type for stations licensed or "license-applied-for."**

State and City	*Call Letters*	*Operating Organization*
COLORADO		
Denver		**National Broadcasting Co.**
Denver		**KLZ Broadcasting Co.**
CONNECTICUT		
Hartford		**Travelers Broadcasting Service Corp.**
DELAWARE		
DISTRICT OF COLUMBIA		
Washington		**Philco Radio & Television Corp.**
Washington		**Bamberger Broadcasting Service**
Washington	WNBW	**National Broadcasting Co.**
Washington	W3XWT	**Allen B. DuMont Labs. Inc.**
Washington		**Capital Broadcasting Co.**
Washington		Evening Star Broadcasting Co.
FLORIDA		
Jacksonville		**Jacksonville Broadcasting Corp.**
Miami Beach		A. Frank Katzentine
GEORGIA		
Atlanta		Liberty Broadcasting Corp.
IDAHO		
Boise		Station KIDO
ILLINOIS		
Chicago	WBKB	**Balaban & Katz Corp.**
Chicago	WTZR	**Zenith Radio Corp.**
Chicago		**WGN, Inc. (Chicago Tribune)**
Chicago		**National Broadcasting Co.**
Chicago	W9XCB	**Columbia Broadcasting System**
Chicago		Blue Network Co. Inc.

State and City	*Call Letters*	*Operating Organization*
INDIANA		
Evansville		WGBF-WEOA-WMLL
Fort Wayne		WOWO
West Lafayette	W9XG	**Purdue University**
IOWA		
Davenport		Tri City Broadcasting Co.
Iowa City	W9XUI	**State University of Iowa**
KANSAS		
KENTUCKY		
Louisville		WAVE, Inc.
LOUISIANA		
Baton Rouge		Baton Rouge Broadcasting Co.
New Orleans		**Loyola University**
MAINE		
MARYLAND		
Baltimore		**The Tower Realty Co.**
Salisbury		Pennsylvania Broadcasting Co.
MASSACHUSETTS		
Boston		**Westinghouse Radio Stations Inc.**
Boston		The Yankee Networks Inc.
Boston	WIXG	**General Television Corp.**
MICHIGAN		
Detroit		**WJR**
Detroit		**Jam Handy Corporation**
Detroit		**International Detrola Co.**
Detroit		**King Trendle Broadcasting Co.**
Detroit		**United Detroit Theaters Corp.**
Grand Rapids		WLAV

State and City	*Call Letters*	*Operating Organization*
MINNESOTA		
Duluth	WEBC	
Minneapolis		**Industrial Tool & Die Works Inc.**
St. Paul—Minneapolis		KSTP, Inc.
St. Paul—Minneapolis		Minnesota Broadcasting Corp.
MISSISSIPPI		
MISSOURI		
Kansas City	WDAF	
St. Louis		**Alfco**
St. Louis		Star-Times Publishing Co.
MONTANA		
Missoula	KGVO	
NEBRASKA		
Omaha		**WOW, Inc.**
NEVADA		
NEW HAMPSHIRE		
NEW JERSEY		
Camden		**Radio Corp. of America**
Newark		**Bremer Broadcasting Co.**
Passaic		**Allen B. DuMont Labs. Inc.**
NEW MEXICO		
Albuquerque		**Albuquerque Broadcasting Co.**
NEW YORK		
Buffalo	**WEBR**	
Buffalo		Buffalo Broadcasting Corp.
Ithaca		Cornell University
Jamaica		**Jamaica Radio & Television Co.**

State and City	*Call Letters*	*Operating Organization*
New York	WNBT	**National Broadcasting Co.**
New York	WABD	**Allen B. DuMont Labs. Inc.**
New York	WCBW	**Columbia Broadcasting System**
New York	W2XMT	**Metropolitan Television Inc.**
New York		**Bamberger Broadcasting Service**
New York		**Philco Radio & Television Corp.**
New York		**News Syndicate Inc.**
New York		Blue Network Co. Inc.
Rochester		**Stromberg Carlson Co.**
Schenectady	WRBG	**General Electric Co.**
Troy		Troy Broadcasting Co.
White Plains		**Westchester Broadcasting Corp.**
NORTH CAROLINA		
NORTH DAKOTA		
Fargo		WDAY Inc.
OHIO		
Akron		WADC
Cincinnati	W8XCT	**The Crosley Corporation**
Cleveland		**National Broadcasting Co.**
OKLAHOMA		
Oklahoma City		**WKY Radiophone Company**
Tulsa		Southwestern Sales Corp.
OREGON		
Portland		Oregonian Publishing Co.
Salem		Oregon Radio Inc.
PENNSYLVANIA		
Harrisburg		WHP, Inc.
Philadelphia	WPTZ	**Philco Radio & Television Corp.**
Philadelphia		**Bamberger Broadcasting Service**
Philadelphia	W3XAU	**WCAU Broadcasting Company**

State and City	*Call Letters*	*Operating Organization*
Philadelphia		**Westinghouse Radio Stations Inc.**
Philadelphia		**WFIL Broadcasting Co.**
Philadelphia		**Philadelphia Inquirer**
Pittsburgh		**Westinghouse Radio Stations Inc.**
Pittsburgh		WCAE Inc.
RHODE ISLAND		
SOUTH CAROLINA		
SOUTH DAKOTA		
TENNESSEE		
Chattanooga		WDOD Broadcasting Corp.
Jackson		The Sun Publishing Co.
TEXAS		
Fort Worth		KGKO Broadcasting Co.
Houston		Harris County Broadcast Co.
UTAH		
Salt Lake City		**Utah Broadcasting Co.**
Salt Lake City		**Intermountain Broadcasting Co.**
Salt Lake City		Radio Service Corp. of Utah
VERMONT		
VIRGINIA		
Richmond		**Havens & Martin, Inc.**
Richmond		Richmond Radio Corp.
WASHINGTON		
Spokane		**Louis Wasmer, Inc.**
Yakima		Radio KIT
WEST VIRGINIA		
South Charleston		**Gus Zaharis**
Charleston		WCHS

State and City	*Call Letters*	*Operating Organization*
WISCONSIN		
Milwaukee	WMJT	**The Journal Company**
WYOMING		

Summary of U. S. Television Stations

Licensed stations	13
Licensed stations now operating	9
Applications for commercial stations pending	50
Applications for experimental stations pending	7
Licensed relay stations	15
Relay stations applications pending	2
Cities in which licensed stations are now operating	5
Cities where stations are to be located when applications are granted	39
States where stations are to be located when applications are granted	25
Cities in which interest in television stations is active	66
States in which interest in television stations is active	34

EVERY CITY OF 100,000 OR OVER, NOW MAKING PLANS FOR ONE OR MORE TELEVISION STATIONS

All over the United States there has been considerable local discussion about television stations to be applied for and installed. But many of those who are contemplating entering television broadcasting after the war, have not as yet submitted applications to the F.C.C. and have requested that all information regarding their activities be kept confidential at this time. This attitude has prevented our listing many localities where television-station plans are right now under active consideration.

It seems safe to assume, however, that there are interests contemplating entering television broadcasting postwar in nearly all metropolitan communities in the United States with populations of 100,000 or over.

Television Organizations

American Television Society, 1140 Broadway, New York City (Caledonia 5–7430)

President-elect—Dan D. Halpin, RCA, Camden, N. J.; Vice-pres.—Ray Nelson; Treas'r—Don McClure; Sec'y—Kay Reynolds; Directors: Norman D. Waters, George T. Shupert, David H. Halpern, Prof. E. C. Cole, Lela Swift, Charles Kleinman, J. R. Hutchinson.

Television Broadcasters Ass'n., Inc., 500 Fifth Avenue, New York, 18, N. Y. (Lackawanna 4–4788)

Pres. Allen B. DuMont, Passaic, N. J.; Vice-pres. Louis Allen Weiss, Los Angeles, Calif.; Sec'y-treas. Will Baltin; Provisional ass't sec'y-treas. Jack R. Poppele, 1440 Broadway, New York City.

Society of Television Engineers (Pacific Coast)

Sec'y-treas'r—Curtis W. Mason, c/o Earle C. Anthony, Inc., 141 No. Vermont Ave., Los Angeles, 4, Cal.

RTPB Representatives: Frederic C. Wolcott, chf. eng., Gilfillan Bros., Los Angeles, Cal; Frederick Ireland, General Radio Co., Hollywood, Cal.

Television Producers Assn., 1425 Broadway, Room 70, New York, N. Y.

Acting pres.—Bud Gamble, Farnsworth Tel. & Radio Corp.; Acting vice-pres.—Edwin Woodruff, DuMont Labs.; Acting sec'y—Jay Strong; Acting Treas'r.—Roger Caelos.

Also

Radio Manufacturers Association. 1317 F St. NW, Washington, D. C. Bond Geddes, Executive Vice-Pres.

National Association of Broadcasters. 1760 N St. NW, Washington, D. C. Harold Ryan, President.

Radio Technical Planning Board. Chairman, Dr. W. R. G. Baker, General Electric Co., Bridgeport, Conn. Vice-chairman, Dr. A. N. Goldsmith, 597 Fifth Ave., New York, N. Y.

National Electronic Distributors Association. George D. Barbey, Pres. Box 2, Reading, Pa.

Electronic Parts & Equipment Mfrs. Assn. Lewis G. Groebe. 77 W. Washington St., Chicago, Ill.

Representatives of Radio Parts Manufacturers. David Sonkin, Sec'y. 220 E. 23rd St., New York, N. Y.

Sales Managers Club (Eastern Division). Walter Jablon, Sec'y. 460 West 34th St., New York, N. Y.